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ABSTRACT

A sampler of thematic science lessons from the Japanese bilingual/bicultural education program of the Clarendon Alternative School, a California elementary school, is presented. The lessons are designed to integrate Japanese instruction with the core science curriculum. Each lesson contains this information: the grade level, teacher(s), and sensei; and introductory statement about the lesson and related classroom activities; classroom procedures; relevant Japanese vocabulary; sample dialogue; extension activities, when appropriate; and sample or reproducible instructional materials. Lesson topics include: oneself and others (kindergarten); apples (kindergarten/grade 1); wind and the pinwheel (grade 1); dissolving in water (grades 1/2); eggs (grade 2); crayfish (grades 2/3); properties of salt water (grade 3); and electricity (grades 4/5 and 5). (MSE)

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ED 382 017

JAPANESE BILINGUAL BICULTURAL PROGRAM

CLARENDON ALTERNATIVE SCHOOL

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CURRICULUM SAMPLER: II

SCIENCE

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CURRICULUM SAMPLER: II

SCIENCE

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Principal, V. KANANI CHOY, ED.D.

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May, 1995

TABLE OF CONTENTS

Introduction.....ii

All of Us (Grade K).....1

My Apple Book (Grades K/1).....11

Wind and Pin Wheel (Grade 1).....27

Let's Disolve in Water (Grades 1/2).....34

Eggs (Grade 2).....42

All About Crayfish (Grades 2/3).....59

Floating is Better in Salt Water (Grade 3).....72

Electricity (Grades 4/5 and 5).....77

CLARENDON ALTERNATIVE SCHOOL
JAPANESE BILINGUAL BICULTURAL PROGRAM

CURRICULUM SAMPLER II: SCIENCE

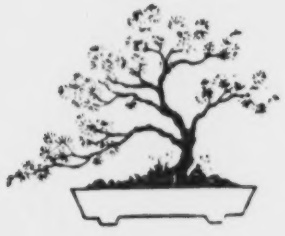
Introduction

The staff of the Clarendon Japanese Bilingual Bicultural Program have prepared this curriculum sampler of thematic lessons that integrate Japanese instruction into our school's core science curriculum. We want students to feel that all learning is connected to life in our surrounding community and to the real world outside the classroom. One way of strengthening this connection is to teach lessons that are related to a common theme or topic. Thematic units are often generated by special events or areas of study associated with a particular grade level. Teachers make lessons meaningful for students by connecting what is taught to life outside the classroom. A class may investigate several thematic units during the school year.

As the school year goes on, new lessons grow out of the old. Successful learners are able to ask themselves, "What do we know now that we didn't know when we started?" and "How can we use this new knowledge to learn something more difficult in an interesting way?"

In an effort to connect Japanese language learning to the quality instruction being provided for students, the senseis and teachers have created Japanese language lessons that are related to the thematic units being taught in the regular "core" curriculum. Effective teaching enables students to connect new knowledge to prior learning. Students who connect what they learn in Japanese to activities and events in their daily lives become successful learners.

It is very important for children to have an audience for their school work beyond their classroom teacher, in order to affirm that the work is important. It is also important for teachers and others who invest in and support the Clarendon Japanese Bilingual Bicultural Program to have an audience to affirm that the work we do is important. We invite anyone who is interested to become researchers with us in discovering more about successful learning and how it happens.



Sincerely,

V. Kanani Choy

V. Kanani Choy, Ed.D.
Principal, Clarendon Elementary School

English/Japanese Lesson Plan: All Of Us

Room:110 Grade:K Teachers: Ms. Gale Nakasone & Mrs. Sumako Morimoto
Sensei: Mrs. Hiroko Konrai

Introduction:

"Myself and Others" is one of the first modules in the kindergarten science curriculum. The children focus on body parts and explore the similarities, differences, and variations.

Initial Bilingual Lessons:

1. Children begin by learning the following body parts in English and Japanese. Flannel board activities, songs, and fingerplays are used to teach the body parts bilingually. Example of a song is "Head, Shoulders, Knees, and Toes".
   atama あたま, head; kata かた, shoulder; me め, eyes; hana はな, nose; kuchi くち, mouth; mimi みみ, ears; te て, hands; ashi あし, legs; onaka おなか, stomach; senaka せなか, back; kubi くび,neck

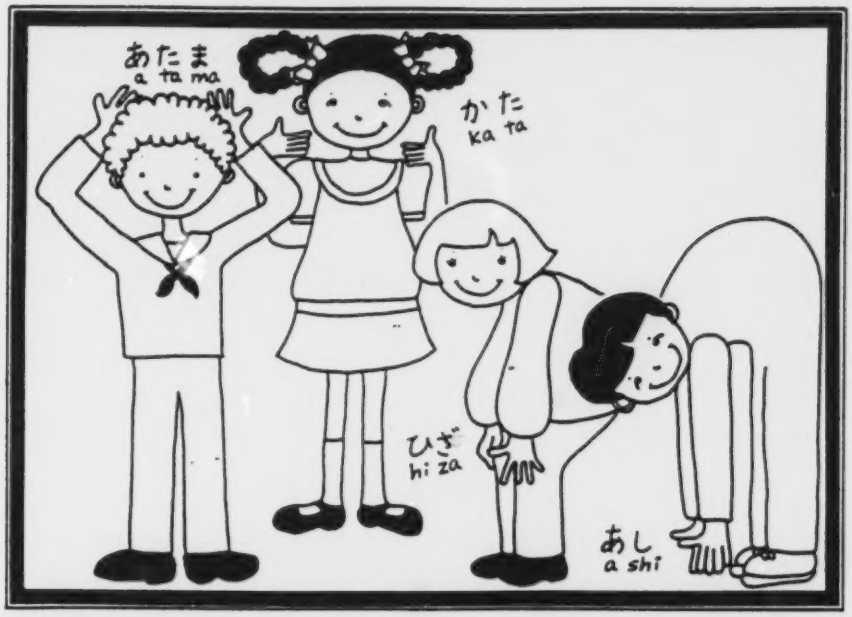
2. Games are played to reinforce the body parts in Japanese. Example of a game is Body Parts BINGO. Children listen to Japanese and match the pictures of the body parts.

3. Simple Japanese phrases are taught using the body parts for example:
   Onakaga suita. おなかがすいた。I'm hungry.
   Onakaga itai. おなかがいたい。My stomack hurts.
   Atamaga itai. あたまがいたい。I have a headache.
   Tega itai. てがいたい。My hand hurts.

4. Graphs were made of the different colors of eyes, hair, and the various sizes of hands and feet etc. Japanese words for big and small were taught.

Culminating Lessons:

The children collectively make an A l l O f U s big book, written bilingually. Children worked in pairs to draw on large construction paper the body parts studied. The Big Books that the children make are read and enjoyed over and over again. (see attached)



Atama Kata Hiza Ashi

Atama kata hiza ashi hiza ashi
Atama kata hiza ashi hiza ashi
Me to mimi to kuchi to hana
Atama kata hiza ashi hiza ashi.

7 NANA

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All Of Us
わたしたちのからだ

by

Children in Rm.110 Kdg.

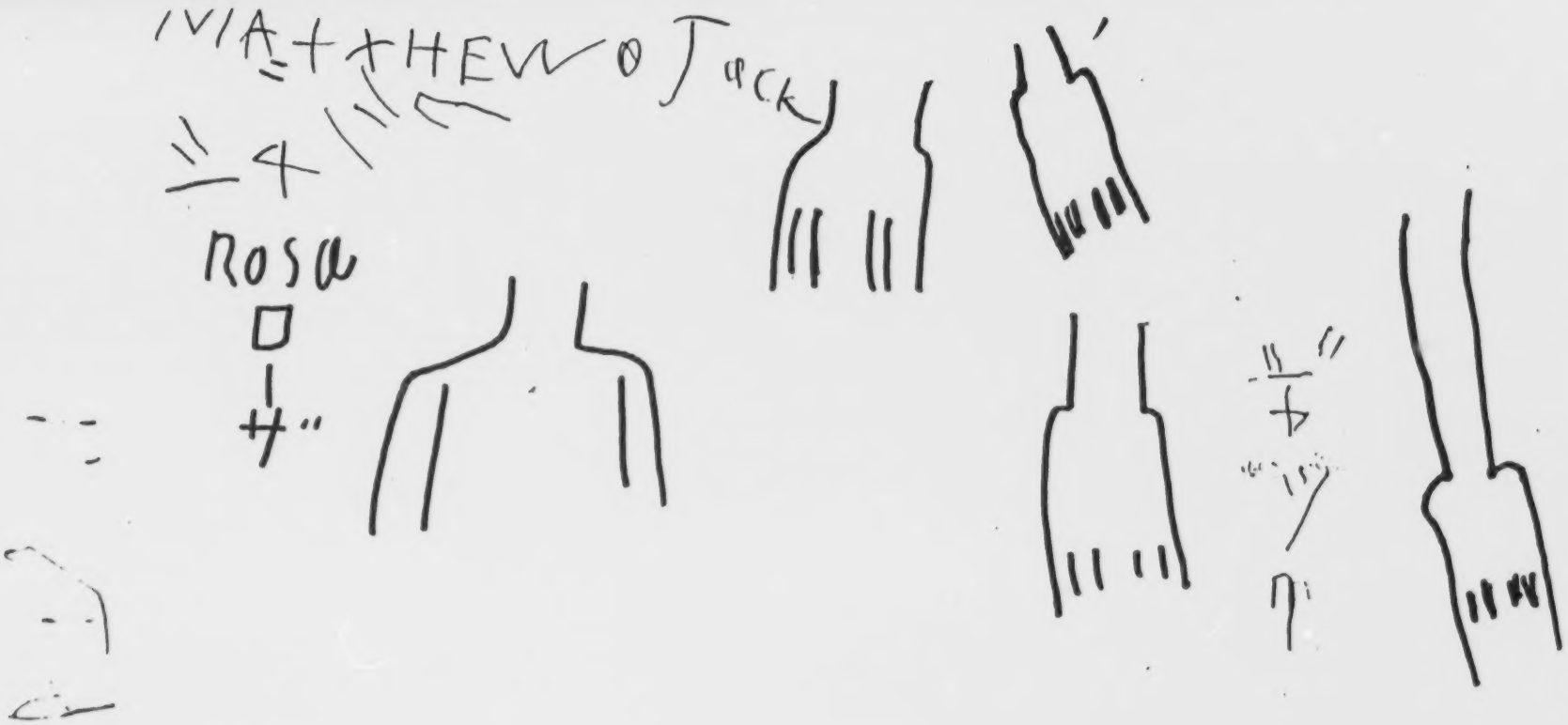
satoshi
さとし

micaela
ミカエラ

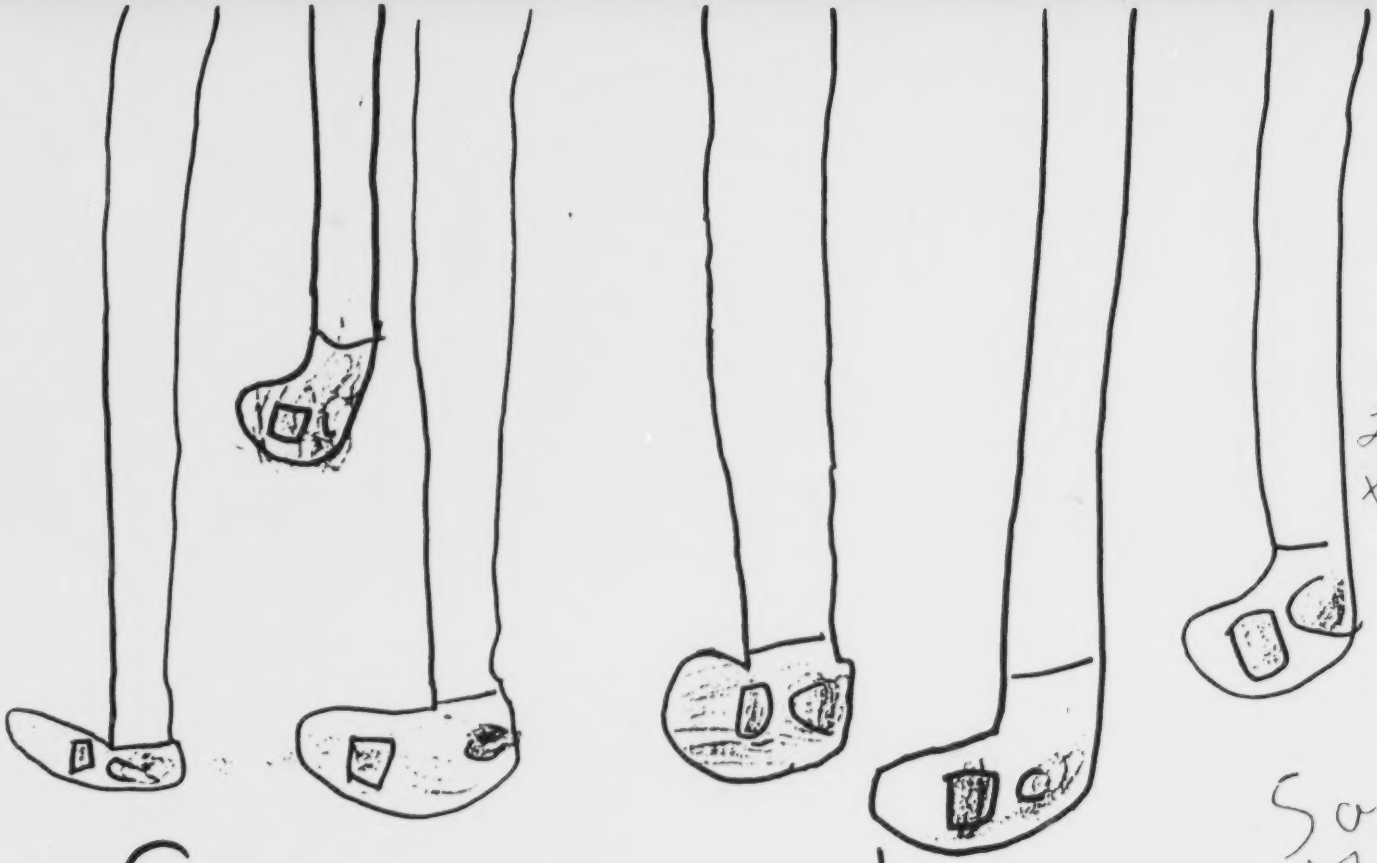
See our heads.
あたまがある

See our hands

てがある



See our shoulders.
かたがある

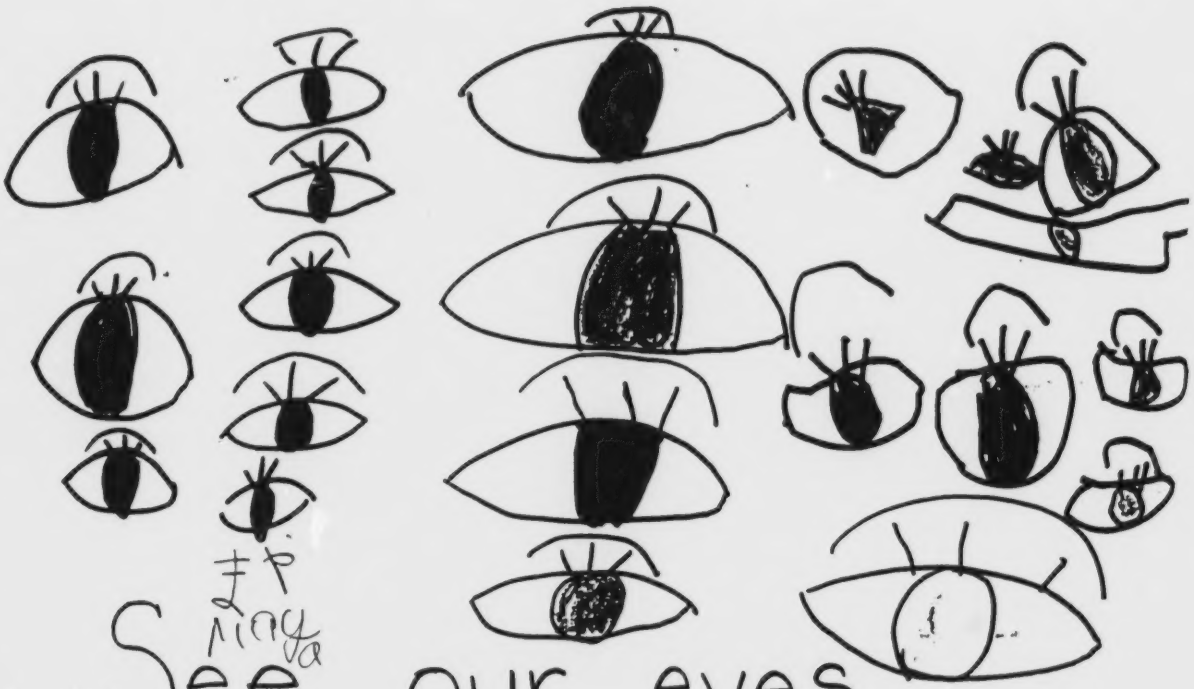


See our legs.

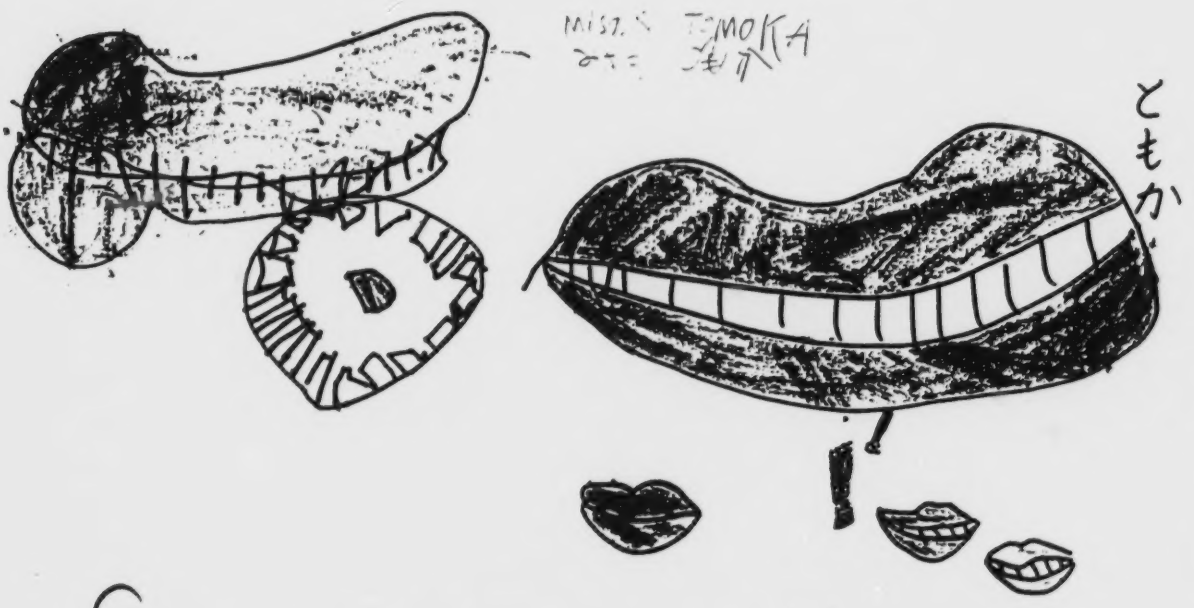
あしがある

Sakura
Mika

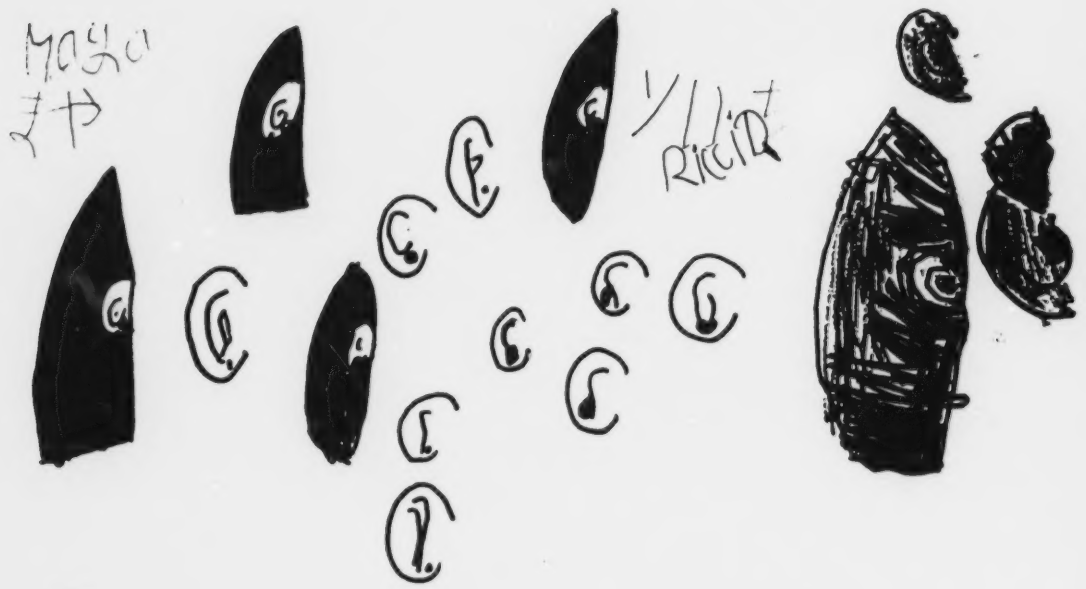
Sakura
Mika Sakupo



See our eyes.
めがある

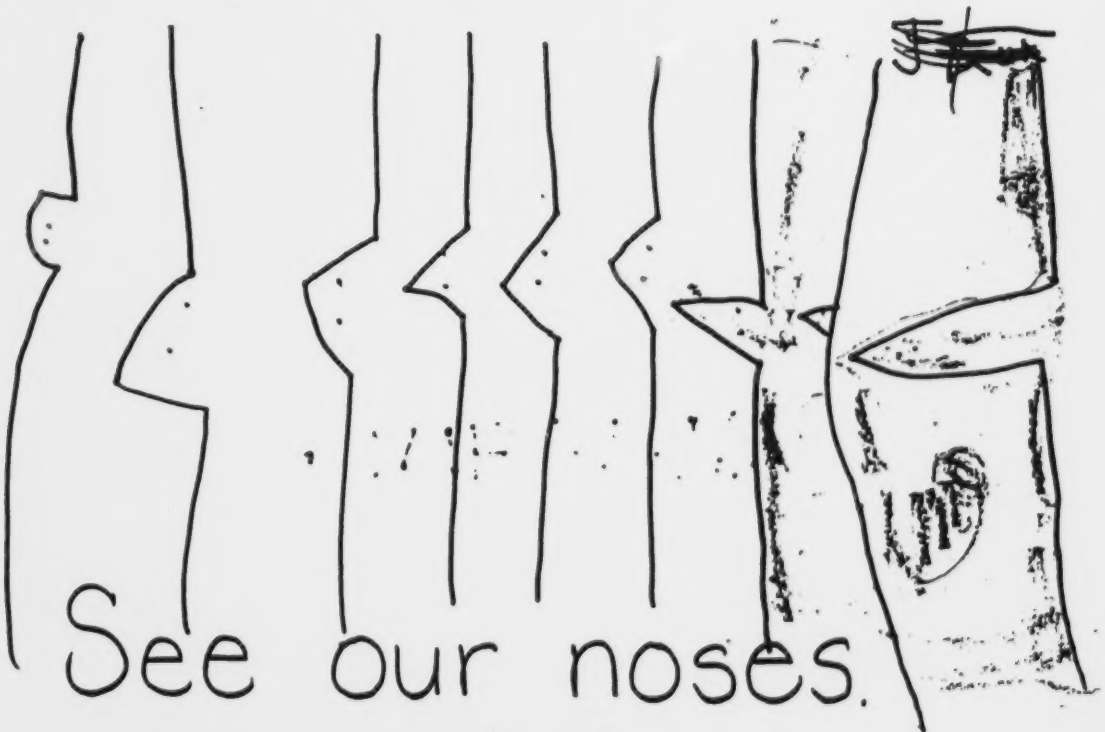


See our mouths.
くちがある



See our ears.

みみがある



See our noses.

はながある

Now you can see all of us.

みんなともだちがいる

Yui Yukiko
ゆいゆきこのざき
はやしHAYASHINOZAKI

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English/Japanese Lesson Plan: My Apple Book

Room: 3 Grade:K/1 Teacher: Ms.Sydney Nakamura
Sensei: Ms.Ayako Hanaoka

Introduction:

The students in room 3 participated in an instructional unit intergrating language, mathematics, language arts, and science. During a science unit on insects, the students were engaged in various activities using the book, The Hungry Caterpillar. This particular lesson relates to the apple the caterpillar ate on Monday.

Lessons:

1. The story is read to the students in both Japanese and English using a sock puppet as the caterpillar and cut-outs that show the journey of the caterpillar.

2. The students in small groups create their own book titled, My Apple Book in Japanese and English.

   Page 1 - The students choose an apple and record its color and taste. (5 senses & graphing)

   ringo りんご, apple; boku ぼく, "I" for boy;
   watashi わたし, "I" for girl; aka あか, red; midori みどり, green;
   kiiro きいろ, yellow; amai あまい , sweet; suppai すっぱい, sour

   Page 2 - Estimate how many seeds they have in their apple and after cutting the apple they count the actual number of seeds. (Math: estimating, counting, comparing)

   tane たね, seed; ikutsu いくつ, how many; aru ある, there is...;
   onaji おなじ, same; sukunai すくない, less; ooi おおい, more

   Page 3 - Taste different foods that are made from apples; apple pie, apple sauce, & apple juice and record their preferences. (5 sences)

   suki すき, like; kirai きらい, dislike;
   appurupai アップルパイ, apple pie;
   appurusoosu アップルソース, apple sauce;
   appurujuusu アップルジュース, apple juice

Bilingual lessons:

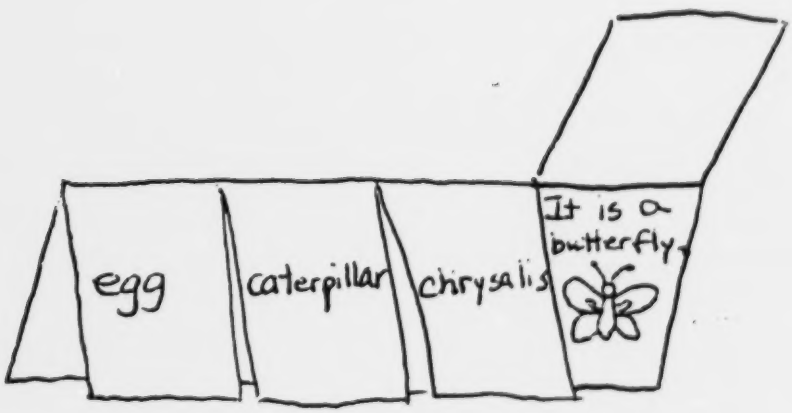
The children learned colors, numbers, and expressions of preferences in Japanese & English through songs, games, and instructional activities.

Extension:

Through a Cross-Age Touring Program, the students together with their fifth grade partners create a book showing the stage of a butterfly's life in both Japanese & English. (Language arts, science)

Japanese vocabulary :

tamago たまご, egg; aomushi あおむし, caterpillar;
sanagi さなぎ, cocoon; choochoちょうちょ, butterfly;
nichiyoobi にちようび, Sunday; getsuyoobi げつようび, Monday;
kayoobi かようび, Tuesday; suiyoobiすいようび, Wednesday;
mokuyoobi もくようび, Thursday; kinyoobi きんようび, Friday;
doyoobi どようび, Saturday



My Apple Book
わたし の
りんごの 本
ほん

My Apple
わたしのりんご

わたしのりんごは＿＿＿ あか
My apple is red.

＿＿＿ みどり
green.

＿＿＿ きいろ
yellow.

あじは ＿＿＿ あまい
My apple tastes sweet.

＿＿＿ すっぱい
sour.

りんご の たね
Apple Seeds

わたしの りんごは たねが (　　) あると おもう
I think there are　　apple seeds.

ほんとうは (　　) っ あった
total seeds.

わたしが おもったのと _____ おなじかず
My estimation is the same as the total.

わたしが おもったより _____ すくなすぎた
My estimation was　　less than the total.

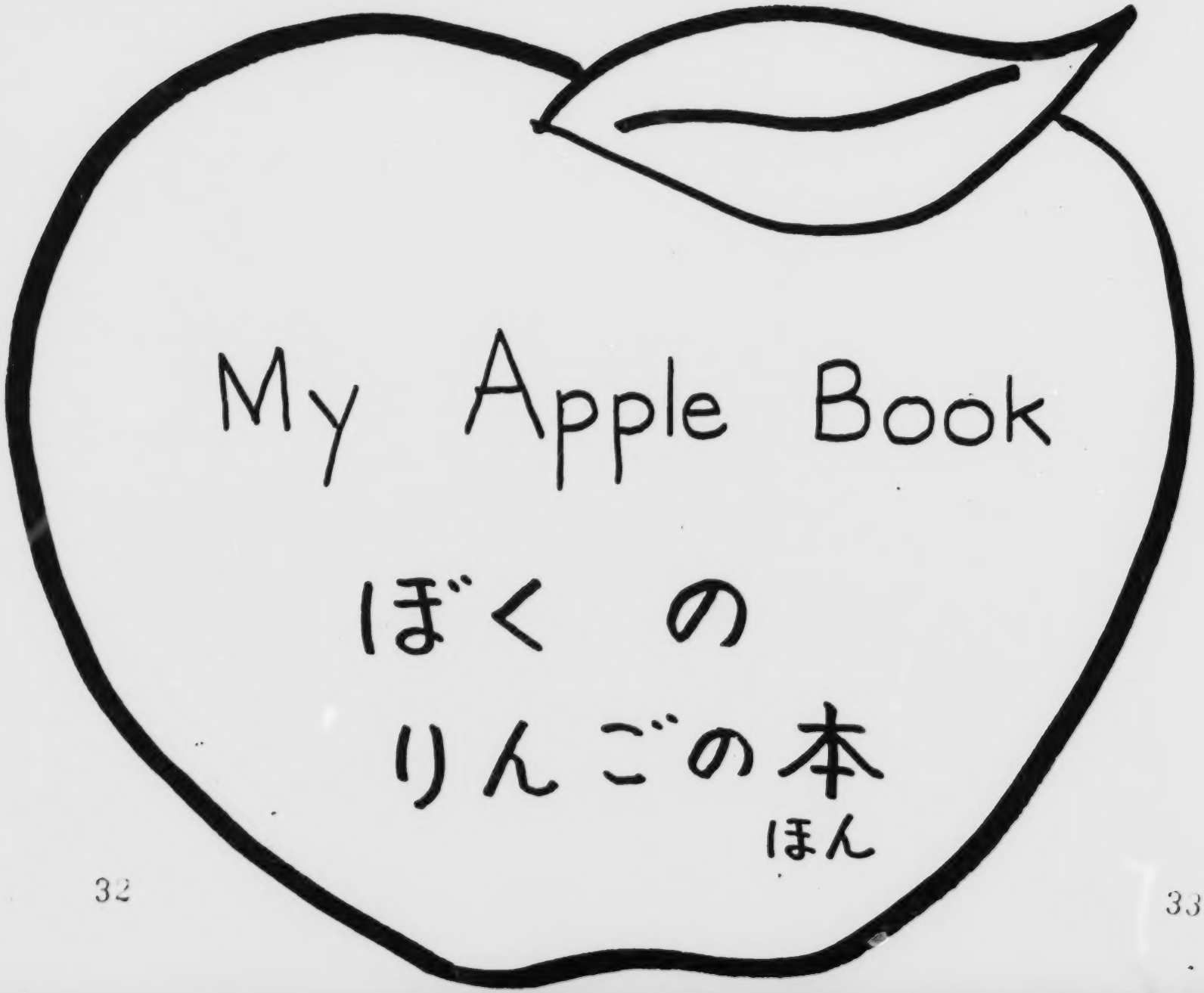
_____ おおすぎた
more than the total.

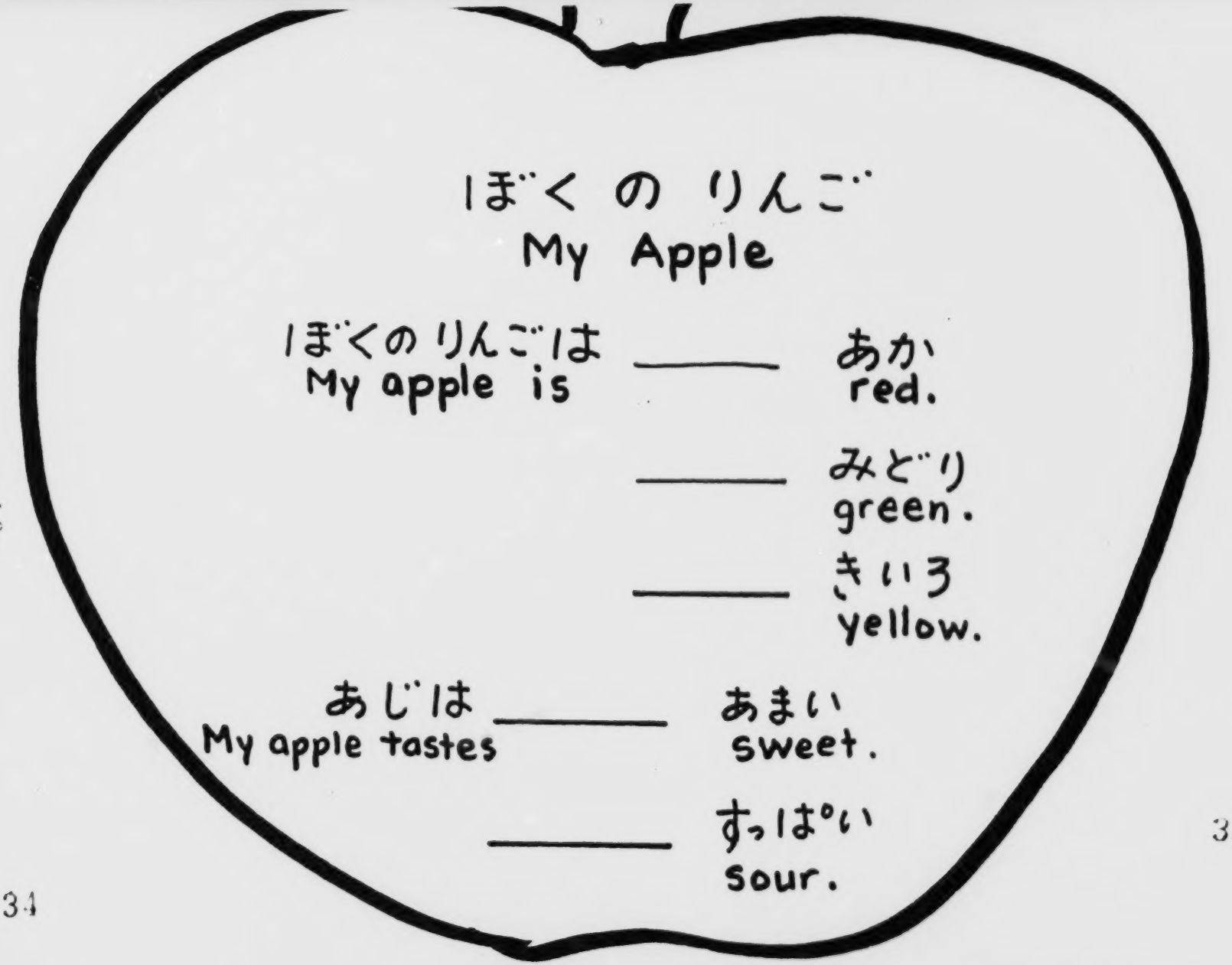
りんごのたね
Apple Seeds

りんごの りょうり
Food From Apples

	だいすき I like it.	きらい I don't like it.
アップルパイ Apple Pie	＿＿＿＿	＿＿＿＿
アップルソース Apple Sauce	＿＿＿＿	＿＿＿＿
アップルジュース Apple Juice	＿＿＿＿	＿＿＿＿

ぼくは（　　）がすきです
わたしは（　　）
I like（　　）.


My Apple Book
ぼく の
りんごの本
ほん


ぼく の りんご
My Apple
ぼくの りんごは
My apple is
_____ あか
red.
_____ みどり
green.
_____ きいろ
yellow.
あじは _____
My apple tastes
あまい
sweet.
_____ すっぱい
sour.

りんごのたね
Apple Seeds

ぼくのりんごは　たねが（　　）あるとおもう
I think there are　　apple seeds.

ほんとうは（　　）つあった
total seeds.

ぼくがおもったのと＿＿＿＿おなじかず
My estimation is the same as the total.

ぼくがおもったより＿＿＿＿すくなすぎた
My estimation was　　less than the total.

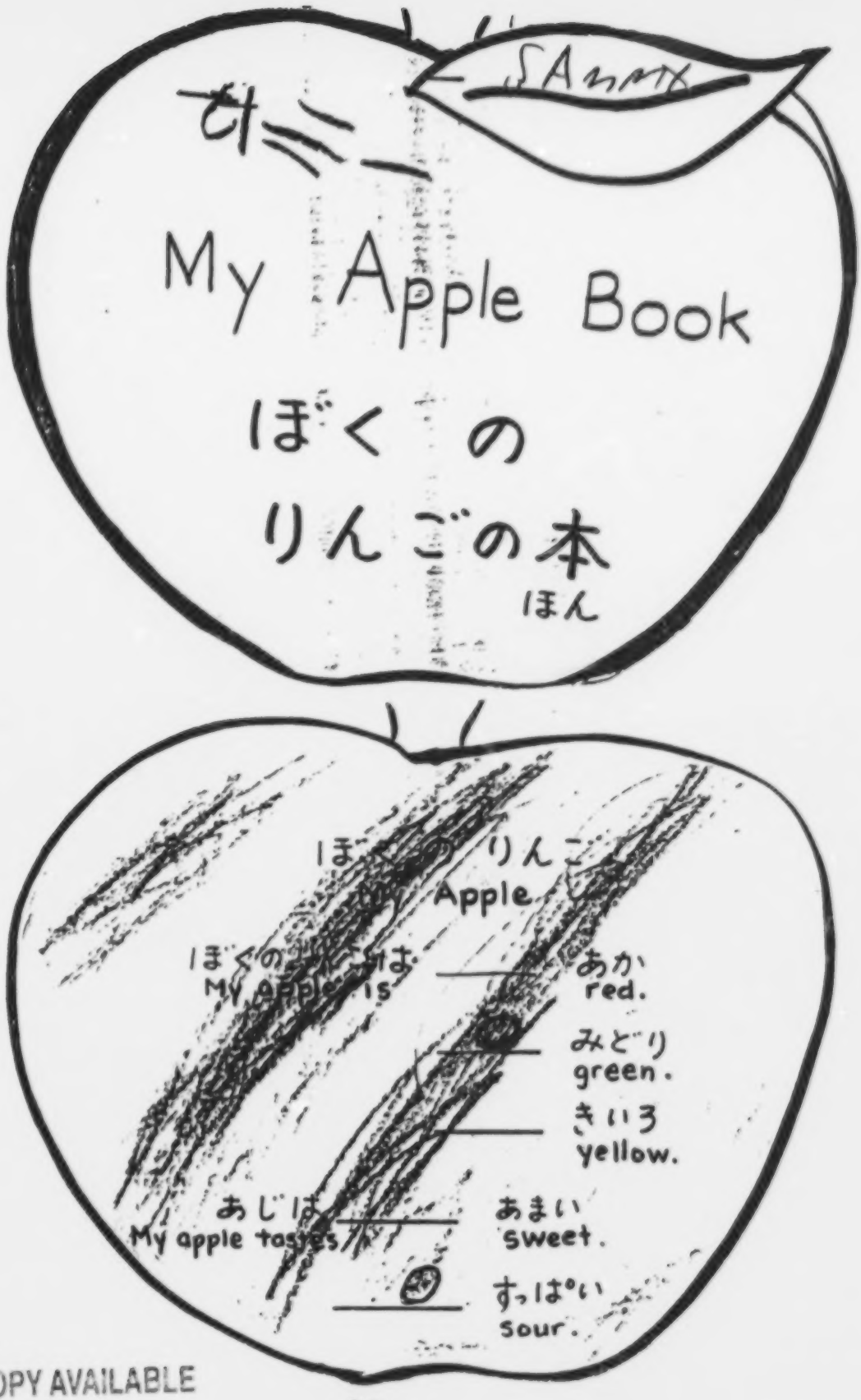
＿＿＿＿おおすぎた
more than the total.

りんごのたね
Apple Seeds

りんごの りょうり
Food From Apples

	だいすき I like it.	きらい I don't like it.
アップルパイ Apple Pie	＿＿＿＿	＿＿＿＿
アップル ソース Apple Sauce	＿＿＿＿	＿＿＿＿
アップル ジュース Apple Juice	＿＿＿＿	＿＿＿＿

ぼくは（　　）が すきです
わたしは（　　）
I like（　　）.



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りんごのたね
Apple Seeds

ぼくのりんごは たねが（ 6 ）あるとおもう
I think there are 6 apple seeds.

ほんとうは（ 4 ）つあった
total seeds 4.

ぼくがおもったのと ＿＿＿ おなじかず
My estimation is the same as the total.

ぼくがおもったより ＿＿＿ すくなすぎた
My estimation was less than the total.

＿O＿ おおすぎた
more than the total.

りんごのたね
Apple Seeds

りんごのりょうり
Food From Apples

	だいすき I like it.	きらい I don't like it.
アップルパイ Apple Pie	0	
アップルソース Apple Sauce	0	
アップルジュース Apple Juice	0	

ぼくは（パイ）がすきです
わたしは（ pie ）.
I like (pie).

egg たまご	caterpillar あおむし	Cocoon さなぎ	butterfly ちょう
42			43

Egg たまご	Caterpillar あおむし	Cacoon さなぎ	Butterfly ちょう

41

43

English/Japanese Lesson Plan: Wind and Pinwheel

Room: 102 Grade: 1 Teacher: Mrs. Char Mori Sensei:Mrs. Yoko Tanaka

Introduction:

During this lesson students brainstorm and create an awareness of the helpful and harmful qualities of wind. Students are asked to construct the knowledge of the constructive and distructive effects of the weather on our environment, talk about directions (north, west, south, and east) and discover and discuss that north is always at the top of a map and south is at the bottom. In addition the teacher and sensei will initiate discussions about windmills, kite, sailboats, gliders, etc..

Observation:

Have the students make a weather vane. Give each student a dittoed sheet of Diagram3. Have them glue the paper on a piece of cardboard. Place the stick (with ribbons on it) in a mound of clay which has been placed in the center of Diagram 3 paper. Take the students outside to observe the wind direction by using a compass on page 1.

Materials: Origami square styrofoam macaroni glue stick straw compass pinwheel instruction (Diagram 3)

Experiment:

Have each student make a pinwheel. See instruction sheet for Pinwheel. Take the class outside to experiment with the pinwheels. Discuss the wind direction, check the compass and face the pinwheel toward the wind. Compare the movement of the wheel by moving it in different directions.

Results:

Have the students write a sentence or two about the lesson and draw a picture. Discuss what they learned from the lesson.

Japanese vocabulary:

kaze かぜ, wind; tsuyci つよい, strong; yowai よわい, week;
kita 北, north; minami 南, south; higashi 東, east;
kazaguruma かざぐるま, pinwheel; tenki 天気, weather; hare 晴れ, fine;
kumori 曇り, cloudy; kiri 霧, fog; ame 雨, rain

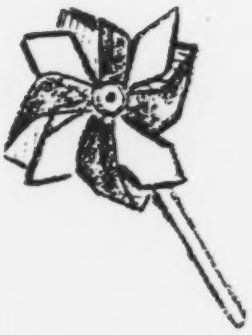
Sample dialogs in Japanese:

Sensei: Kyoono otenkiwa doodesuka? 今日のお天気はどうですか。
What kind of the weather is it today?

Students: Hare. (kumori, ame) 晴れ。(曇り、雨) Fine. (cloudy, rain)

Sensei: Kazenomukiwa doodesuka? 風の向きはどうですか。 Which directions is the wind blowing?
Korewa docchi? これはどっち? Which one is this?

Students: Nishi (higashi, minami, kita) 西 (東、南、北) West. (east, south, north)



かぜ Wind　　なまえ（　　）

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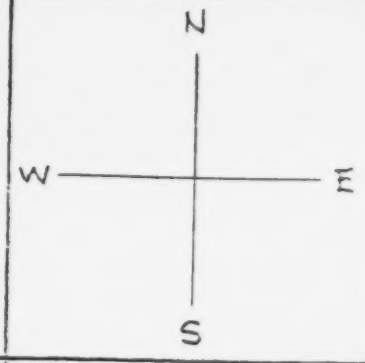
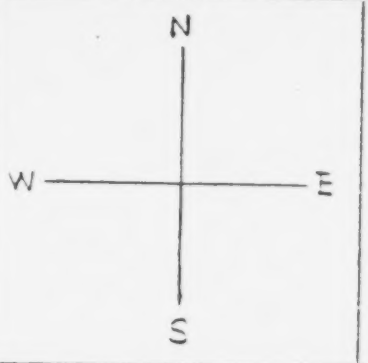
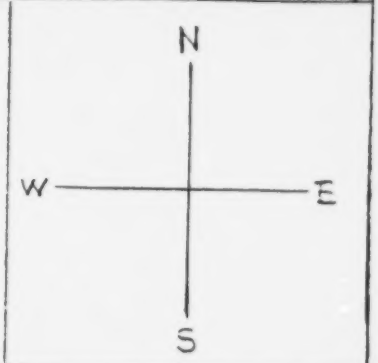
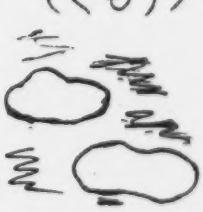
かぜのむき The direction of the wind			
かぜのつよさ The strength of the wind			
てんき Weather			

かぜのつよさ

てんき

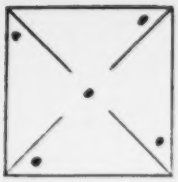


なまえ(　　)

かぜのじっけんをしてみて よかったとおもったところを えとぶんにかきましょう。

Draw a picture and write something about your experience with the wind.

PINWHEEL



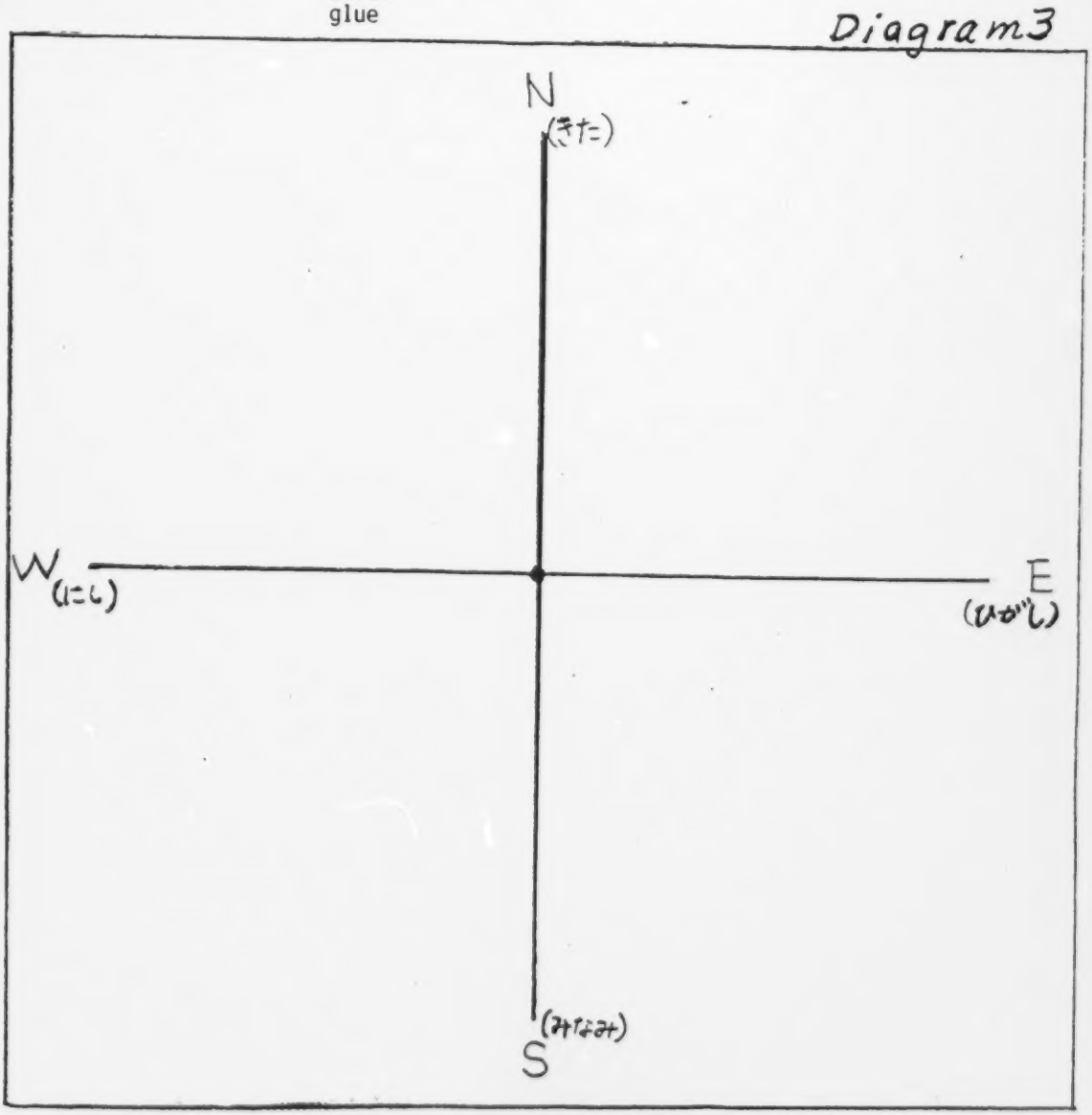
Use a piece of 15 cm square paper. Draw a 7 cm line from each corner toward the center. Cut on these lines. Put a small macaroni on a narrow stick approximately 18 cm long. Pierce the stick through the paper.

Turn every other point (indicated by a dot) inward and push on to stick. Put a dab of glue on a piece of styrofoam and cover the sharp point of the stick. Place the stick in a straw. Hold the pinwheel toward the wind.

SUPPLIES NEEDED TO MAKE PINWHEEL:

square paper
stick
macaroni
styrofoam
straw
glue

Diagram3



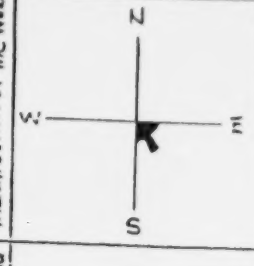
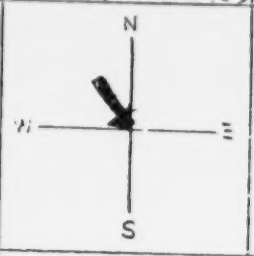
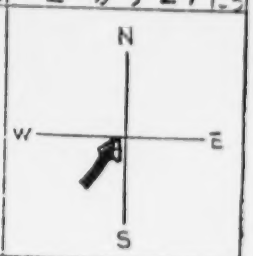
なまえ（佐竹 勇亜　）

かぜのじっけんをしてみて よかったとおもったところを えとぶんにかきましょう。

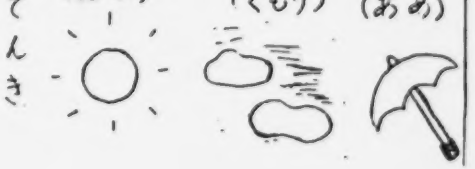
Draw a picture and write something about your experience with the wind.

しんくでほうこうをためすのがたのしいです。

かぜ Wind　Yuji　なまえ（佐竹 勇亜　）

	1995 2がつ22にち	2がつ23にち	2がつ27にち
かぜのむき The direction of the wind			
かぜのつよさ The strength of the wind			
てんき Weather			

てんき（はれ）（くもり）（あめ）



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なまえ(ジャクリーン)

かぜのじっけんをしてみて よかったとおもったところを
えとぶんにかきましょう。

Draw a picture and write something about your experience with the wind.

It was fun with the wind.
the pinwheel is fun too.
the experience is fun.

53

一

かぜ Wind

なまえ(ジャクリーン Jacqueline)

	1995 2がつ22にち	2がつ23にち	2がつ27にち
かぜのふく The direction of the wind	N W E S	N N E S	N W E S
かぜのつよさ The strength of the wind			
てんき Weather			

かざぐるま

てんき (はれ) (くもり) (あめ)

54

Engliah/Japanese Lesson Plan: Let's Dissolve in water

Room: A Grade:1&2 Teacher: Mr. Ron Kunisaki Sensei: Ms.Taeko Morioka

Introduction:

The goal of this project is to give children an opportunity to develop a variety of skills that will enhance learning in science as they explore the properties of different liquids. Solutions are made in different concentrations. Some variables which affect the concentration of the solution are temperature, quantity of solute (material that is disolved) and the type of solvent (liquid in which the material is disolved). This project only uses the solvent water. The students will experiment and observe the process of making solutions in water. They will make the solution; checking to see if the solutions can be used to make bubbles; disolve the solute thoroughly; heat the solution; and/or stir, crush, or not being able to disolve the solute at all. Through out this activity students practice the important scientific skills of observing, comparing, describing, recording, and predicting.

Japanese vocabulary :

koorizatoo こおりざとう, sugar rock; mizu みず, water; yu ゆ, hot water; sato さとう, sugar; shio しお, salt; sekken せっけん, soap, amai あまい, sweet; shiokarai しおからい、shoppaiしょっぱい, salty; shabondama しゃぼんだま, soap bubble; tokeru とける, melt or dissolve; kakimawasu かきまわす, stir; atsui あつい, hot; tsumetai つめたい, cold; oishii おいしい, Tasty or Delicious

Materials needed:

Sugar Rocks, Water, Hot Water, Sugar, Salt, Soap, Detergent, Powdered juice, Hammer, Beakers, String, Chop sticks, Straw

1. Instruct students to hang a sugar rock in water.
   Tie a string around a sugar rock, and tie to a chop stick and hang it in water. After observing for several minutes, students will realize the sugar rock is getting smaller, however, it takes a long time to dissolve completely.

2. Ask students," How can we disolve the sugar rock easily?"
   Suggestions:
   1) crack the sugar rock to smaller pieces
   2) stir or mix
   3) put it in hot water

3. After finishing No.2, check the sugar rock to see if it is getting smaller, it may drop from the string.

4. Let's taste the cracked sugar rocks, sugar, salt, juice, and salt water.

   If the sugar rock is completely dissolved in the water, and one can't see it, the students can taste the sweetened water. Discuss this observation with the class. " I cannot see the the sugar rock, but I can still taste it." "Why?"

5. Students will review with a 2 page worksheet.

Extension:

6. Students read the book, BUBBLE BUBBLE by Mercer Mayer.

7. Students may choose to create bubbles with specially made tools, with 80 cm of string and a straw on each side. Some of their bubbles will be just like the magic bubbles in the book.

8. Students sing the Japanese song "Shabondama tonda"(flying bubbles).

Justin Woodard
Ricky Sueishi
Elisa Matsuura
Tomoyuki Kato

Elisa Matsuura
Tomoyuki Kato

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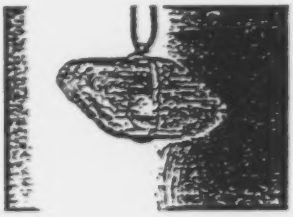
とかしてみよう　　月　　日　なまえ（　　）

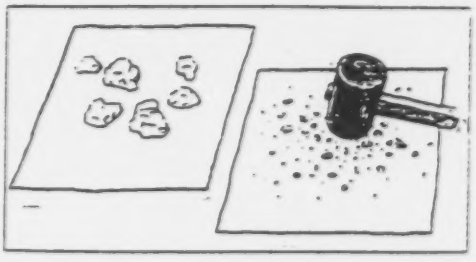
　こおりざとうを　みずのなかに
つるして　みましょう。
　どうなりますか。

　あっているものに○、まちがって
いるものにXをつけましょう。

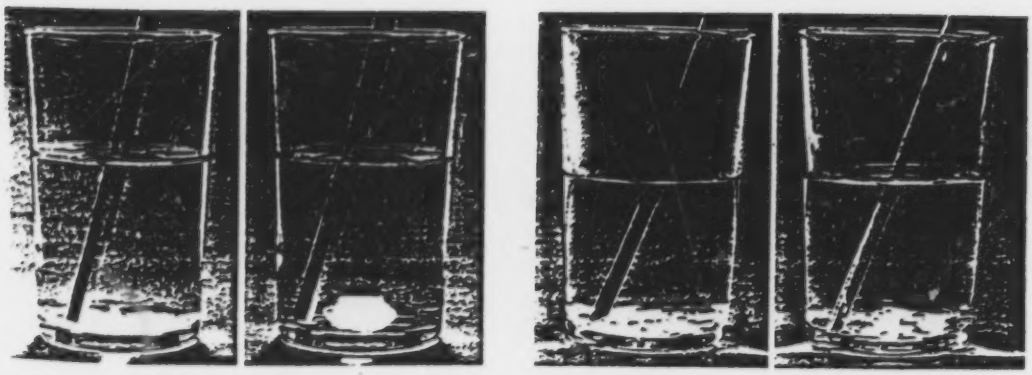
（　）かわらない。
（　）だんだんちいさくなる。
（　）ひもからおちる。
（　）だんだんおおきくなる。



はやく　とかすには　どうしたら　よいでしょううか。



どっちが　はやく　　月　　日　　なまえ（　　）
とけるでしょう。



みず　　みず　　ゆ　　みず

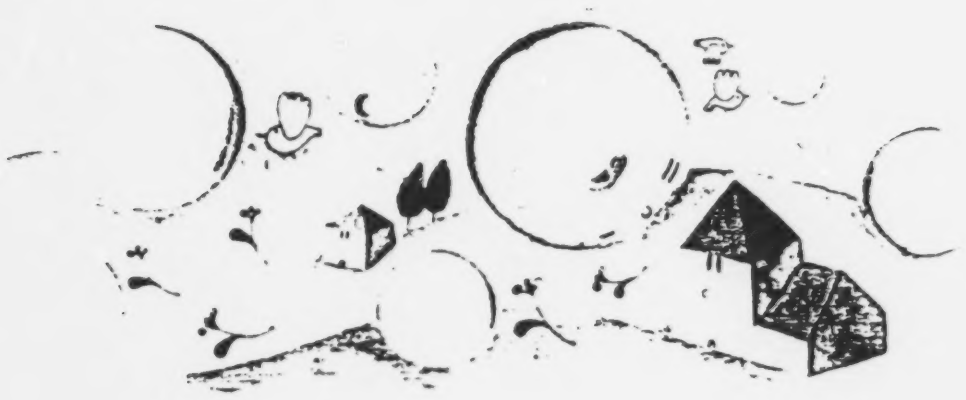
いろいろな　ものをとかしましょう。
　1しお　　2さとう　　3こなジュース　　4せっけん

せっけんを　とかして　しゃぼんだまを　つくりましょう。

ならった　ことを　かきましょう。
1
2
3
4
5

ことばー　Vocaburary
こおりざとうーSugar　Rock,　みずーWater,　ゆーHot　Water,
さとうーSugar,　しおーSalt,　せっけんーSoap,　あまいーSweet,
しおからいーSalty,　しゃぼんだまーSoap　Bubble,
とけるーMelt　or　Dissolve,　かきまわすーStir

シャボンだま



野口雨情 作詞
中山晋平 作曲

♩=72～80

2

ソ ド ド レ | ミ ソ ソ 𝄾 | ラ ファ ド ラ | ソ ラ ソ 𝄾 |

シャボンだま とんだ　やねまで とんだ
シャボンだま きえた　とばずに きえた

（くりかえす）

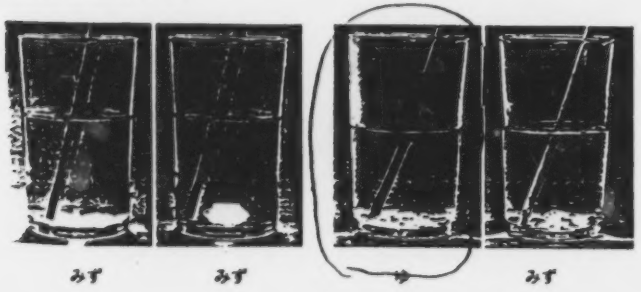
ミ ミ レ ド | レ ソ ソ 𝄾 | ラ ラ ソ ド | ミ レ ド 𝄾 |

やねまで とんで　こわれて きえた
うまれて すぐに　こわれて きえた

ド ド ド ド | ド ラ ソ 𝄾 | ド ド レ ミ ソ | ミ レ ド 𝄾 |

かぜかぜ ふくな　シャボンだま とばそ

どっちが はやく 2月27日 なまえ の呂 颯
とけるでしょう。



いろいろな ものをとかしましょう。
1しお 2さとう 3こなジュース 4せっけん

せっけんを とかして しゃぼんだまを つくりましょう。

ならった ことを かきましょう。
1氷では、なかなかとけないこと。
2お水では氷よりはやくとける。
3つぶしてもできる。
4小さくなる。
5おちる。

ことばー Vocaburary
こおりざとうーSugar Rock, みずーWater, ゆーHot Water,
さとうーSugar, しおーSalt, せっけんーSoap, あまいーSweet,
しおからいーSalty, しゃぼんだまーSoap Bubble,
とけるーMelt or Dissolve, かきまわすーStir

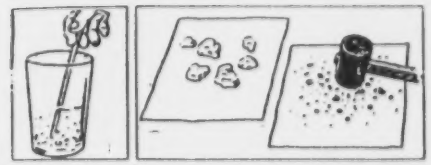
とかしてみよう 2月27日 なまえ め呂 梱

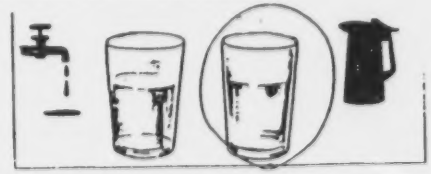
こおりざとうを みずのなかに
つるして みましょう。
どうなりますか。

あっているものに○、まちがって
いるものに×をつけましょう。

(×) かわらない。
(○) だんだんちいさくなる。
(○) ひもからおちる。
(×) だんだんおおきくなる。

はやく とかすには どうしたら よいでしょううか。





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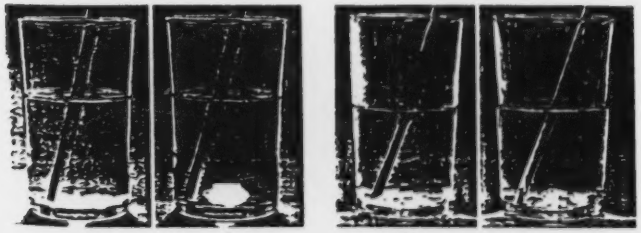
どっちが はやく 2 月 27 日 なまえ (エマ)
とけるでしょう。



いろいろな ものをとかしましょう。
1しお 2さとう 3こなジュース 4せっけん

せっけんを とかして しゃぼんだまを つくりましょう。

ならった ことを かきましょう。
1 Melt
2 Smash
3 Hot water
4 Sweet Sugar
5 Stir

ことばー Vocaburary
こおりざとうーSugar Rock, みずーWater, ゆーHot Water,
さとうーSugar, しおーSalt, せっけんーSoap, あまいーSweet,
しおからいーSalty, しゃぼんだまーSoap Bubble,
とけるーMelt or Dissolve, かきまわすーStir

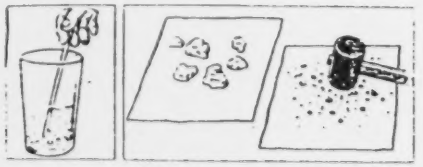
とかしてみよう 2 月 27 日 なまえ (エマ)

こおりざとうを みずのなかに
つるして みましょう。
どうなりますか。

あっているものに○、まちがって
いるものにXをつけましょう。

(X) かわらない。
(○) だんだんちいさくなる。
(○) ひもからおちる。
(X) だんだんおおきくなる。

はやく とかすには どうしたら よいでしょううか。



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English/Japanese Lesson Plan: Eggs

Room: 209 Grade:2 Teacher: Ms. Anna Yamaguchi Sensei: Ms. Hisako Luk

Introduction:

In the spring new life is celebrated. Eggs are a representation of new life. So, in our classroom we do a series of science experiments and projects involving eggs. The following are samples of some of our egg projects.

Lesson 1: Read Big Book Hatched From an Egg in Japanese.

Activity 1: Whole class activity; students ask each other the following questions in Japanese for ten minutes. Count how many eggs are written on each students' paper.

Japanese Dialogue:

Ookii tamago o kaitekudasai. おおきいたまごをかいてください。
Please draw a big egg.

Chiisai tamago o kaitekudasai. ちいさいたまごをかいてください。
Please draw a small egg.

Activty 2: Discuss which animals lay eggs and which animals do not. Prepare two pieces of big paper. Cut one into an egg shape. Cut the other paper into a squrare. Brainstorm the names of animals. Ask whether the animal lays eggs or not in Japanese. Students answer "Yes, it lays an egg" or "No, it doesn't lay an egg." in Japanese. The Sensei will write the name of the egg layers on an egg shaped paper and the other animals on square paper.

The student then picks their own animal from the list and will draw a picture of the animal. They will cut out the animal and paste it on large egg shaped paper or square paper. The children then write the name of the animal in Japanese under their animal.

Japanese Dialogue:
Tamagodesuka たまごですか。 Is it an egg?
Hai, tamagodesu. たまごです。 Yes, it's an egg.
Iie, tamagojanaidesu. たまごじゃないです。 No, it not an egg.

Lesson 2: Let's Make Eggs Float

Introduction: Students gain an awareness that there is more buoyancy in saltwater.

Materials: fresh eggs large clear cups water salt spoon

Drop an egg gently in the cup with unsalted water. Watch the egg sink to the bottom. Add one teaspoon of salt into the cup and stir gently, observe what happens. Record it on your record sheet. Add one more teaspoon of salt and observe what happens. Keep adding salt into the cup until the egg floats. How many teaspoons of salt do you need to make an egg float?

Japanese dialogue:
Tamago wa ukimasuka. たまごは うきますか。 Does an egg float?
Iie ukimasen. いいえ、うきません。 No, it does not float.
Hai ukimasu. はい、うきます。 Yes, it floats.

Lesson 3: Make a Snake Egg

Introduction: Students will observe that when the calcium from a chicken egg is removed its shell becomes soft. The calcium from the egg can be removed by placing it in vinegar, a mild acid. The bubbles that should be observed at the beginning of this process is calcium carbonate.

Materials: clear cup egg vinegar

Put an egg into a cup and fill the cup with vinegar. On the next day touch the egg gently. It will have become soft and rubbery. On the third day, observe the egg, look for changes in texture, color, size, shape and

movement. Use a pencil to pop the egg, and see i f anything has happen to the inside. Record the observations of each day. Discuss the differences of eggs such as texture, color, shape and size.

Some snakes' eggs are so strong they can bounce, however, chicken eggs are unable to develop this additional strength, even after this process.

Japanese Vocabulary:

kara から,egg shell　su 酢, vineger　yawarakai やわらかい, soft
kimi きみ,egg yalk
tamago no kara w a doonarimashitaka?　たまごのからは どうなりましたか。
What happen to the egg shell?
yawarakaidesu. やわらかいです。　Got soft.

Extension

Lesson4: Cooking

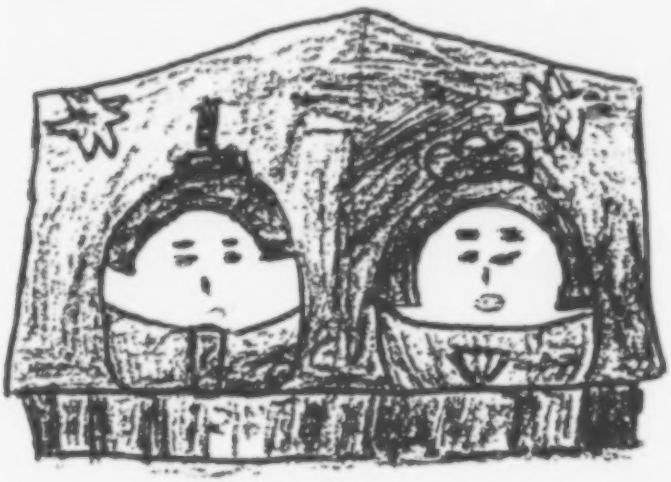
Cook the eggs-Scrambled eggs
Survey and make a graph as to what style of egg you like the most, scrambled eggs, sunnyside up, hard boiled, or dashimake (Japanese style omelet).

Watashi(biku) w a _____gasukidesu.
わたし（ぼく）は _____がすきです。
I like _____.
Watashi(biku) w a _____gakiraidesu.
わたし（ぼく）は _____がきらいです。
I dislike _____.

Lesson 5: Make Egg Hina Dolls

Save egg shells from the cooking project. Make Hina Dolls for the Japanese Doll Festival on March 3rd.
Materials: 2 drained whole egg shells　washi(Japanese rice paper)
glue　pencil　black maker　empty cassette tape cases
colored paper　hard paper　rouge　red thin marker

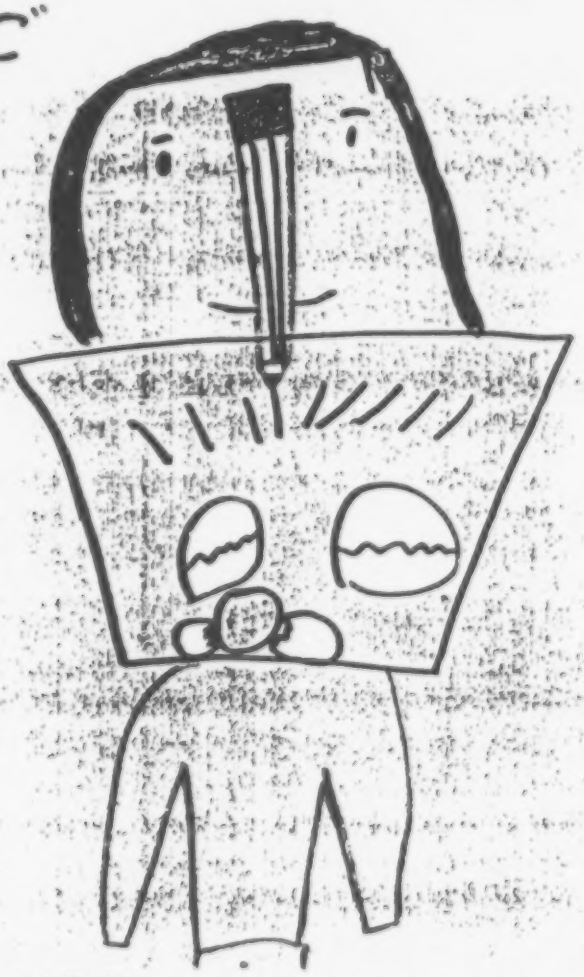
1. Wrap the cassette tape case with red paper. Put gold color hard paper on the wrapped cassette tape case like byoobu(folding screen).
2. Wrap washi paper on the egg shell. Draw eyes and nose with pencil and use red thin makers to draw a mouth. Color the hair with a black marker.
3. Put crowns on the dolls. Put a fan on the queen doll, and a baton on the king. Put rouge on the dolls' cheeks.



Alexander MacAlister

Philip Lee
Natsumi Makiyama

たまご



63

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Lesson 1:

ばんごう
よみましょう。
Let's read

なまえ _____

じをれんしゅうしましょう。
Practice writing

えをかきましょう。
Draw pictures.

がつ　にち　ようび
月　日　曜日

| | | |

Lesson 1：

たまご　　月　　日　　よう日　なまえ

次の文を読み　てきとうなことばを下からえらび　（　　）の中にかきましょう。

たまごの中で一番（　　）たまごは、だちょうのたまごです。　一番（　　）たまごは、ハミングバードのたまごです。

へびもとかげもわにもたまごを小さく（　　）生みます。　かえるは（　　）中にたまごを生みます。　また、土の（　　）にたまごをうむのもいます。

たつのおとしごは、おすが（　　）の中にたまごをかかえて、だいじにまもってやります。

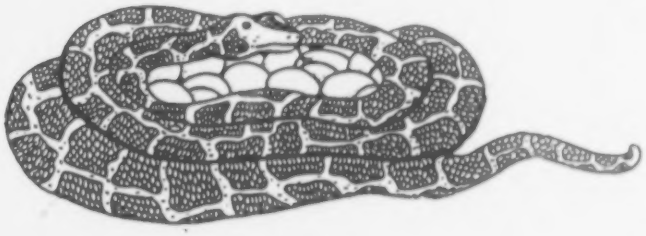
ペンギンは、つめたい（　　）からたまごをまもるため、（　　）の上にたまごをのせて　あたたかくしてやります。

かたつむりもかめもこんちゅうも　みんなたまごから（　　）。

でも、ぜんぶのたまごが　あかちゃんには（　　）。　いろいろな（　　）が　とったり、　（　　）たりするからです。

とりの（　　）は、つめたい（　　）からたまごをまもるやくめをします。

足　かえりません　かぜ　大きい　かさねて　水　こおり うまれます　中　おなか　小さい　す　てき　食べ



ばんごう

なまえ

月　日

ようび

Search for words. したのどうぶつのなまえをさがしましょう。

ま	り	す	や	う	へ	ま	こ	け	つ	い	の	し	し	あ
と	む	さ	せ	ゆ	ま	な	わ	し	ふ	ね	め	ぽ	く	お
ほ	え	る	ん	や	よ	ち	に	む	け	ず	ひ	い	の	ん
お	か	き	う	そ	せ	ね	こ	つ	え	み	ほ	し	ん	ど
へ	び	え	つ	ぐ	し	け	そ	わ	む	ふ	か	え	る	と
け	こ	う	し	と	ち	う	な	た	こ		け	ひ	も	り

えいごでかきましょう Write in English ↓

1 さる _____

2 ねずみ _____

3 たこ _____

4 へび _____

5 うま _____

6 いのしし _____

7 かえる _____

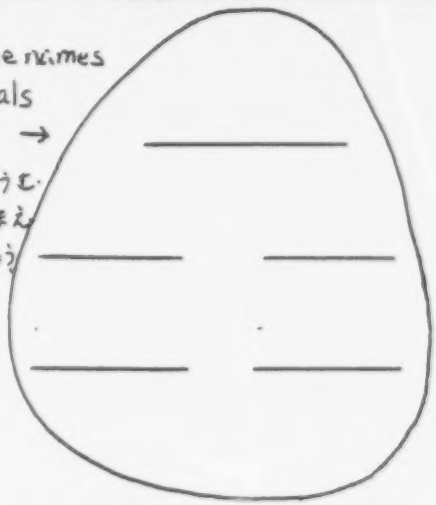
8 わに _____

9 とり _____

10 ねこ _____

List the names of animals lay eggs → _____

たまごをうむもののなまえをかきましょう



List the names of animals don't lay eggs ↓ たまごをうまないもののなまえをかきましょう。

_____ _____

_____ _____

_____

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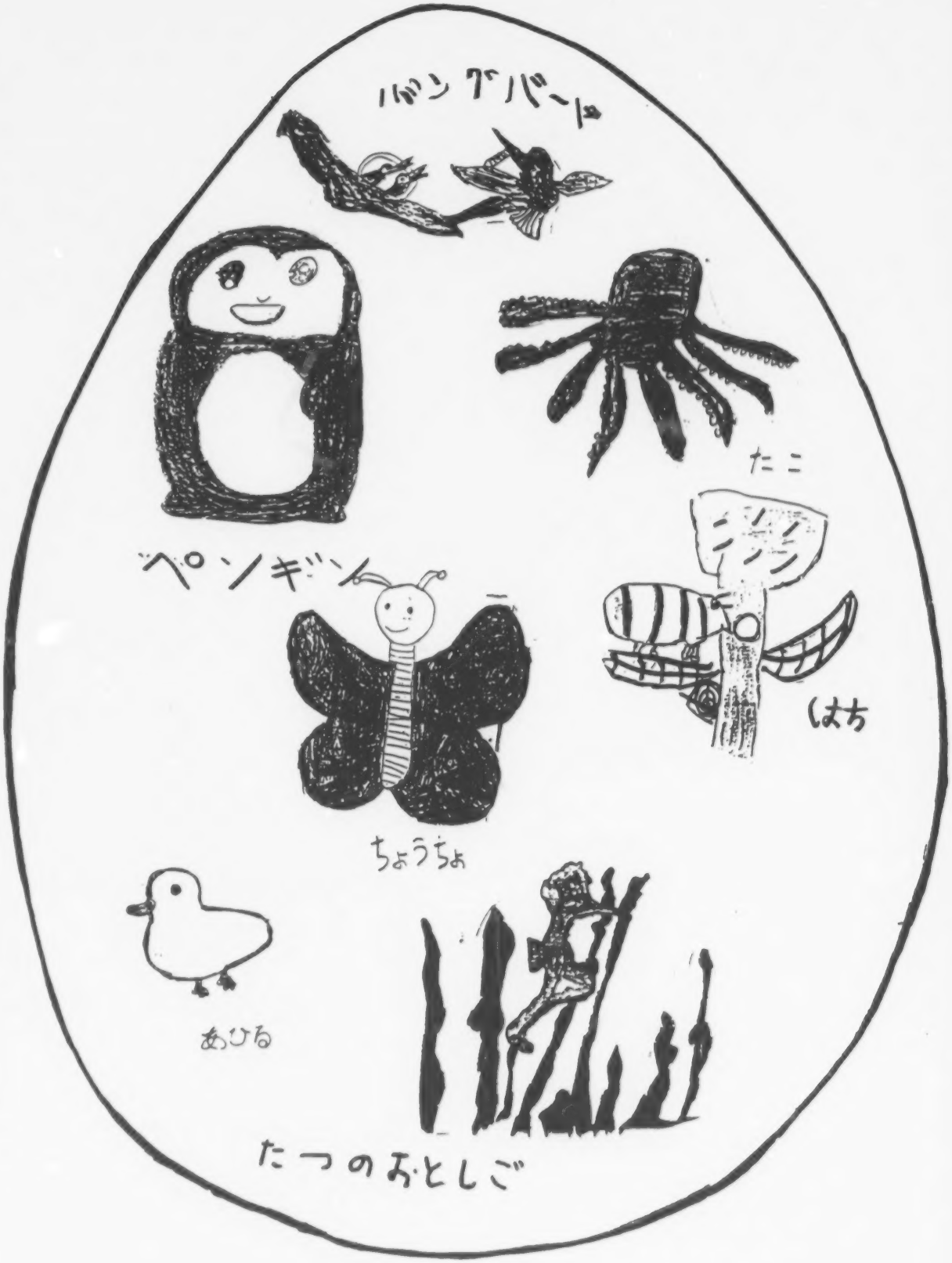
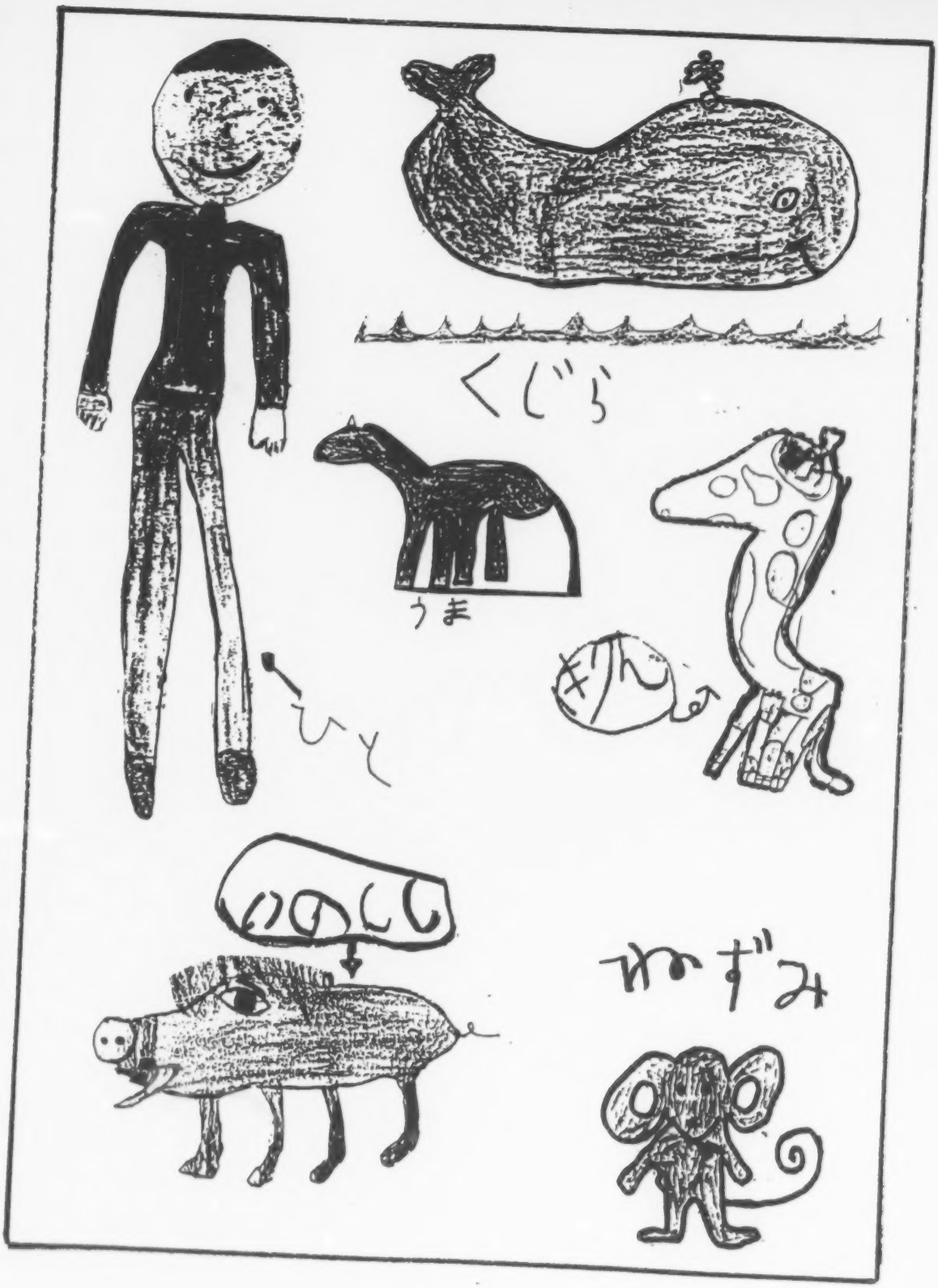

ハンティバード
たこ
ペンギン
ちょうちょ
はち
あひる
たつのおとしご

Lesson 1:



ばんごう 8 なまえ すばる 3月7日 火ようび

Search for words. したの どうぶつの なまえを さがしましょう。

ま	り	す	や	う	へ	ま	こ	け	つ	い	の	し	し	あ
と	む	さ	せ	ゆ	ま	な	わ	し	ふ	ね	め	ぽ	く	お
ほ	え	る	ん	や	よ	ち	に	む	け	ず	ひ	い	の	ん
お	か	き	う	そ	せ	ね	こ	つ	え	み	ほ	し	ん	ど
へ	び	え	つ	ぐ	し	け	そ	わ	む	ふ	か	え	る	と
け	こ	う	し	と	ちう	な	た	こ		け	ひ	も		り

かいてみましょう Write in English

1 さる monkey
2 ねずみ mouse
3 たこ octopus
4 へび snake
5 うま horse
6 いのしし boar
7 かえる frog
8 わに aligator
9 とり bird
10 ねこ cat

List the names of animals that lay eggs → たまごをうむ どうぶつの なまえを かきましょう

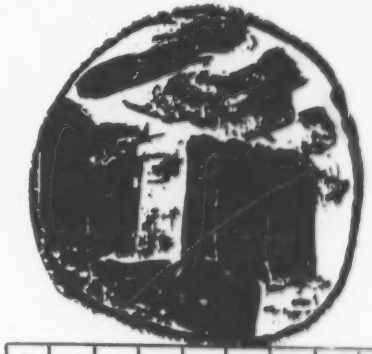
へび
かえる わに
とり たこ

List the names of animals that don't lay eggs → たまごを うまない どうぶつの なまえを かきましょう。

ねこ さる
うま ねずみ
いのしし

ばんごう 2 なまえ ぺりー 月 日 ようび

よみましょう。 Let's read じを れんしゅうしましょう。 Practice writing えを かきましょう。 Draw pictures.



お	お	き	い	た	ま	ご	で	す	。	ち	い	さ	い	た	ま	ご	で	す	。
お	お	き	い	た	ま	ご	で	す	。	ち	い	さ	い	た	ま	ご	で	す	。
お	お	き	い	た	ま	ご	で	す	。	ち	い	さ	い	た	ま	ご	で	す	。
お	お	き	い	た	ま	ご	で	す	。	ち	い	さ	い	た	ま	ご	で	す	。

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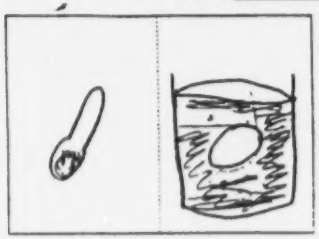
Lesson 2:

じっけんノート

なまえ

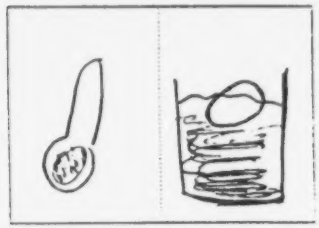
じっけんノート　なまえ　れん、すばる、ゆうすけ　おんど　1 2

5.



おしおをいれて、まぜたらすぐにうかんでました。

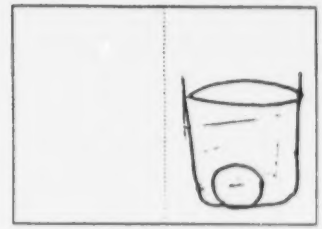
6.



おしおをもがいいれました。スプーンでよくまぜました。たまごがうきました。

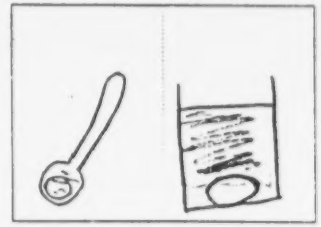
じっけんノート　なまえ　れん、すばる　ゆうすけ　おんど　1 1

1.



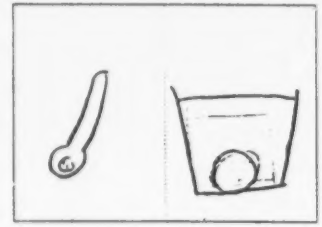
たまごをいれて、しずみました。

2.



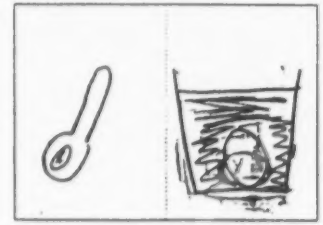
スプーンに、おしおをいれて、コップの中にいれました。

3.



もういちどいれたら、たまごがうくかなとおもいました。

4.



まぜたら、たまごはまだうきません。

かんさつ　きろく　　なまえ＿＿＿＿＿＿＿＿＿＿＿＿

月　　日　　よう日

きょうしたこと

きょうのようす

かんさつ きろく　　なまえ　わだ

3月　18日（はれ）ようび

きょうしたこと
かしがでたまごをうみました。

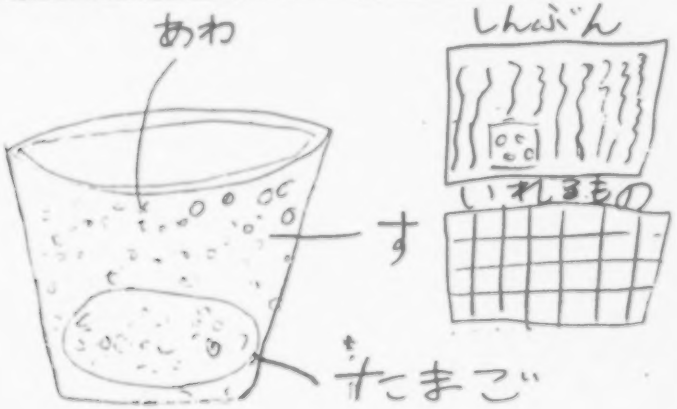
きょうのようす
「おこめ9からはすこし
やわらかいでした。
ゆでた

かんさつ きろく　　なまえ　あすか

2月28日（か）ようび

きょうしたこと
きょうは、たまごをすのなかにいれました。そしてあわがでてきました。そしてたまごのいれものの中は、みどりです。それでしんぶんしをつくえの上におきました。

きょうのようす
たまごをいれるとあわがでました。たまごがあわだらけでした。それであわだらけのたまごがまわりました。おもしろかったでした。それでもうとまりました。



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かんさつ きろく　なまえ あや

3月 1日 すいよう日

きょうしたこと
ゆびでたまごをさわってみました。
I felt the egg and it felt like there was no egg shell. It felt like a boiled egg because it felt mushie.

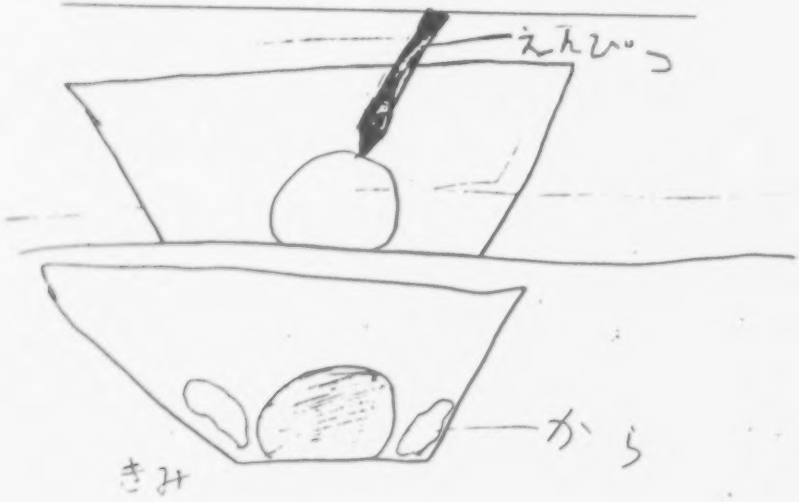
きょうのようす
たまごのからはすこしやわらかいでした。
I stuck my finger in the egg and it was stiky.

かんさつ きろく　なまえ テサ

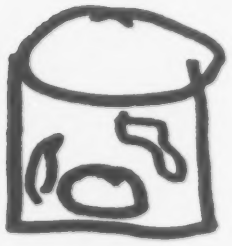
3月 2日 もくよう日

きょうしたこと
すてきなかしました。たまごのからをこわりました。たまごのからをわりました。

きょうのようす
たまごのからはやわらかいでした。ぐよぐよでした。でもからはボールのようでした。



This was a fan ixperamint.
I like the time I got to pop the egg. Lots of vinager came out of the egg. The egg shell was soft when I poped it. It was very interesting how vinerger came out of the egg shell. The inside probaley suked in Lots of vinager.



English/Japanese Lesson Plan: All About Our Crayfish

Room: B Grade: 2/3 Teacher: Ms. Sarah Scott Sensei: Ms. TokukoTakeshita

Introduction:

To integrate Japanese Language into the crayfish unit based on FOSS Structure of the Life Module, the novice and intermediate groups learn Japanese vocabulary and sentence patterns about the crayfish and its habitat. Partners consist of a novice student and an intermediate or advanced student. The objective is to have the students use their mutual strengths in their respective languages to help each other complete the hand out worksheets. The metric system measurements learned in the English session is re-enforced in the Japanese session.

Description of Activities:

Learn parts of the crayfish and identify the crayfish parts in a diagram of the crayfish.

Learn centimeter measurement system and compare with inch measurement system.

Measure in centimeters the various parts of a dissected crayfish (male and female).

Co-operate, exchange knowledge with assigned partner to complete hand out worksheets.

Work on hand out assignment sheets.

Keep Weekly Observation Form describing observations and various significant events relating to their assigned crayfish. (One crayfish per four students)

Keep Daily Journals

Lessons:

English Portion:

The teacher introduces and discusses, extensively, the FOSS Structure of Life Module: Meet the Crayfish. Activities include daily care of the crayfish and its habitat, and keeping of a journal, in English, of their observations, by the student.

Japanese Lessons:

Vocabulary

Novice: Sensei translates and paraphases resource material written in Japanese, reviews vocabulary words and phrases.

Intermediate: Sensei and students participate in reading and paraphrasing resource materials, translating as needed; they review vocabulary words and phrased.

Advanced: Students read resource material and discuss what they have read with the Sensei, translating to English as needed; Sensei and students review vocabulary and phrases in English as well as Japanese, if needed.

Worksheets

Novice:
a. Kotobasagashi, Find the Words
b. Zarigani no Zukai, Diagram; paired with advanced or intermediate student
c. Zarigani no Karada, Structure; paired with advanced or intermediate student

Intermediate and Advanced:
b. Zarigani no Zukai, Diagram; paired with novice student
c. Zarigani no Karada, Structure; paired with novice student
d. Zarigani no Kansatsu, Observation on the Crayfish
e. Kansatsu Kiroku, Weekly Observation Form

Worksheet Directions:

a. Students find Japanese words using various hints on the sheet.

b. Students from the advanced or Intermediate groups are paired with the novice students; together they use their combined knowledge to identify the various parts of the diagram by filling in the blanks.

c. Students from the advanced or intermediate group are paired with the novice students; together they use their combined knowledge to answer questions and fill out the blanks.

d. Students write their thoughts and observations concerning their crayfish

e. Students write weekly observations about the activities concerning and surrounding the crayfish.

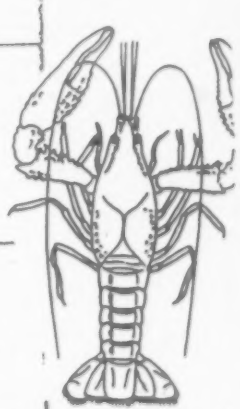
ことば さがし

なまえ

ひにち

FIND THE WORDS

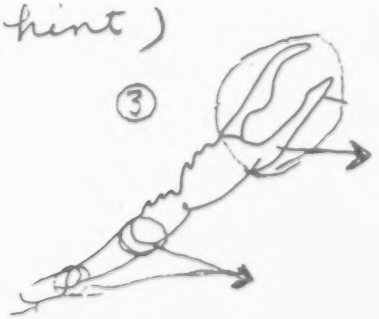
ざ	り	が	に	は	
こ	う	ら	く	さ	
し	っ	ぽ	ち	み	
あ	る	く	あ	し	
お	め	お	び	れ	
す	す	か	ん	せ	っ

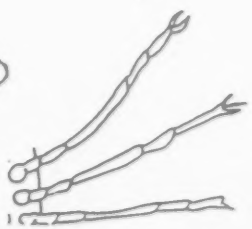


ヒント（hint）

① ♀

② ♂





なまえ＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿　ひにち＿＿＿＿＿＿

ざりがにのからだ

1. ざりがにには、めがありますか。＿＿＿＿＿＿　いくつ＿＿＿＿＿＿
2. ざりがにには、みみがありますか。＿＿＿＿＿＿　いくつ＿＿＿＿＿＿
3. ざりがにには、あるくあしがありますか。＿＿＿＿＿＿　いくつ＿＿＿＿＿＿
4. ざりがにには、アンテナがありますか。＿＿＿＿＿＿　いくつ＿＿＿＿＿＿
5. ざりがにには、おひれがありますか。＿＿＿＿＿＿　いくつ＿＿＿＿＿＿
6. ざりがにには はさみがありますか。＿＿＿＿＿＿　いくつ＿＿＿＿＿＿
7. ざりがにの あしには、かんせつがありますか。＿＿＿＿＿＿　いくつ＿＿＿＿＿＿
8. ざりがにには、くち(のぶぶん)がありますか。＿＿＿＿＿＿　いくつ＿＿＿＿＿＿
9. ざりがにの しっぽは おれますか。＿＿＿＿＿＿　いくつ＿＿＿＿＿＿
10. ざりがにには、はりげがありますか。＿＿＿＿＿＿　いくつ＿＿＿＿＿＿
11. ざりがにには、こぶがありますか。＿＿＿＿＿＿　いくつ＿＿＿＿＿＿
12. ざりがにの とくちょうを しらべてみよう。＿＿＿＿＿＿

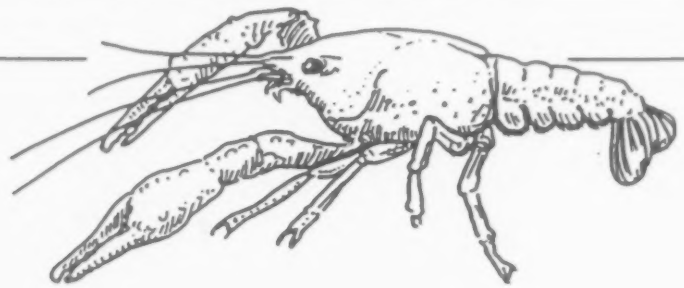
＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿



Name _____ Date _____

CRAYFISH STRUCTURES

1. Do crayfish have eyes? _____ How many? _____
2. Do crayfish have ears? _____ How many? _____
3. Do crayfish have walking legs? _____ How many? _____
4. Do crayfish have antenna? _____ How many? _____
5. Do crayfish have tail flaps? _____ How many parts? _____
6. Do crayfish have pincers? _____ How many? _____
7. Do crayfish legs have joints? _____ How many? _____
8. Do crayfish have mouth parts? _____ How many? _____
9. Do crayfish tails bend? _____ How many places? _____
10. Do crayfish have bristles? _____ Where? _____
11. Does the crayfish have bumps? _____ Where? _____
12. What other crayfish structures did you observe? _____

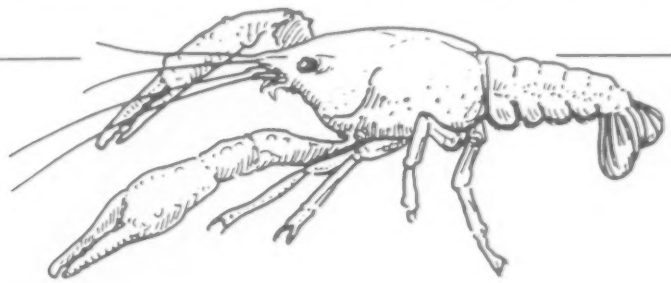
_____

_____

_____

_____

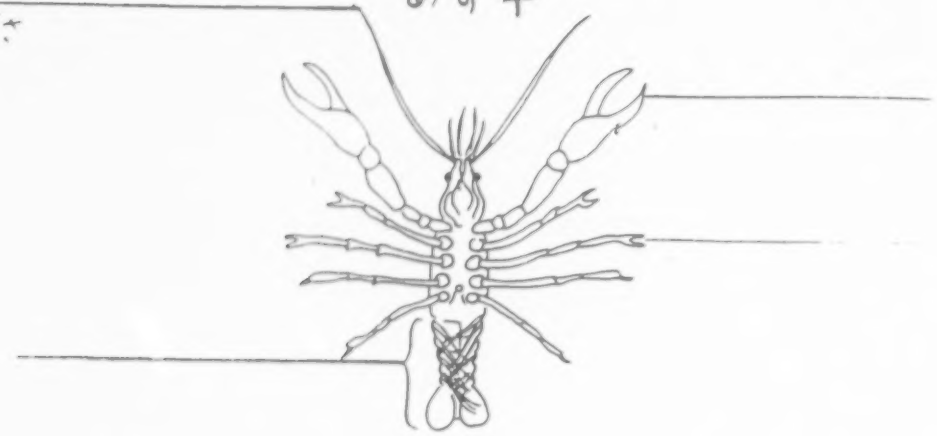
_____ _____



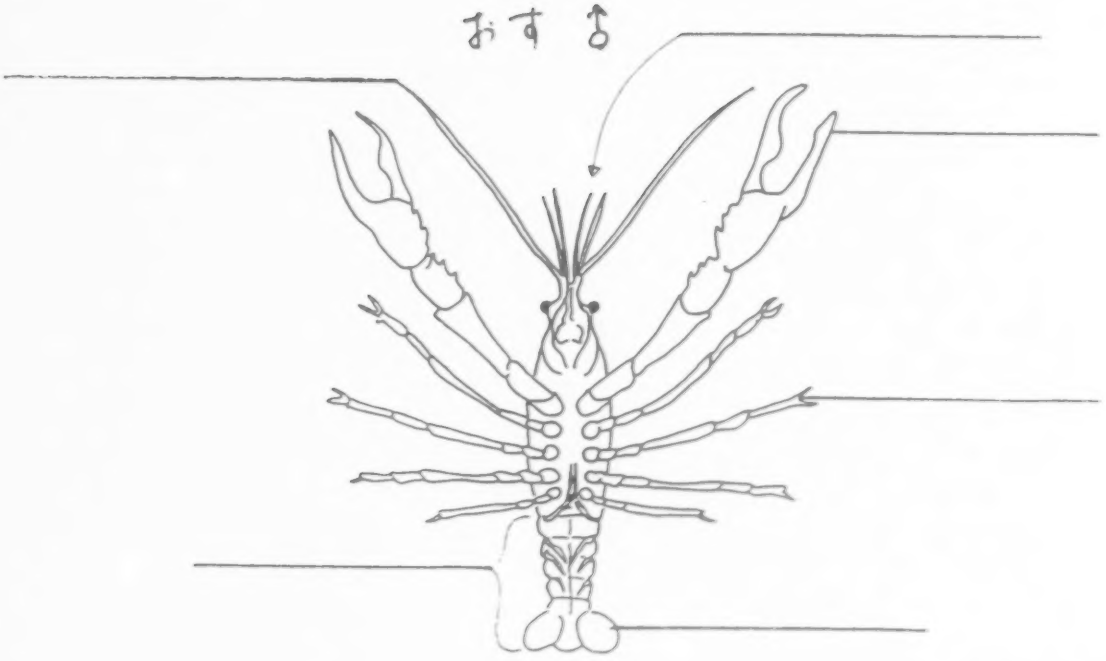
なまえ＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿　ひにち＿＿＿＿＿＿＿＿

ざりがにのずかい

めす♀

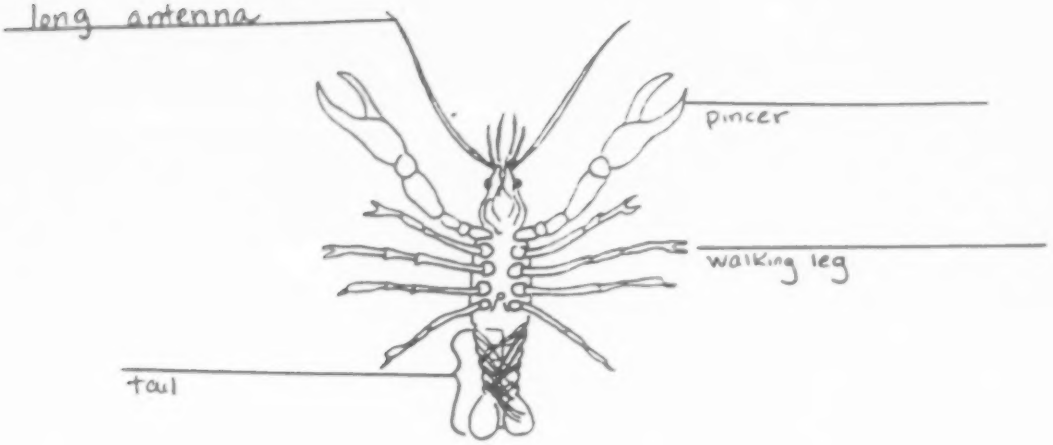


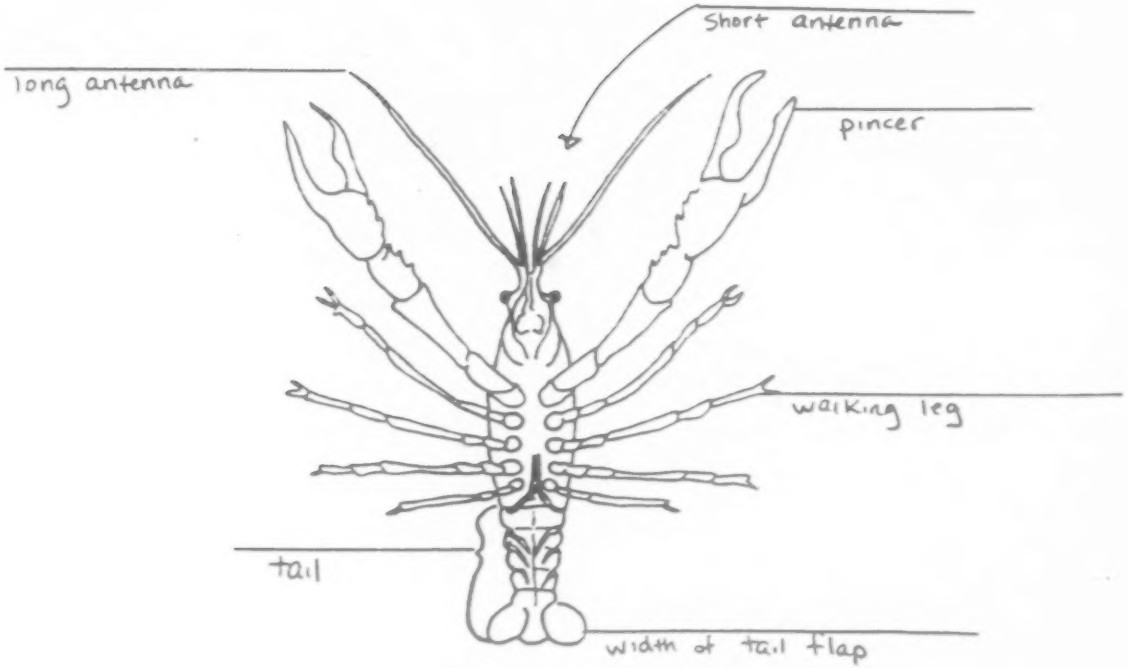
おす♂



How long is it?

CRAYFISH DIAGRAM





なまえ＿＿＿＿＿＿＿＿

グループ＿＿＿＿＿＿＿＿

かんさつ きろく

ひにち ＿＿＿＿＿＿

1 いっしゅうかんの きろく

ざりがにのながさ(cm):

ざりがにのおもさ (g):

みずの りょう (ml/l):

みずの おんど (C): ＿

2 まいにちの きろく

ようす，できごと，えさをやる，みずのとりかえ

げつようび: ＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

かようび : ＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

すいようび: ＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

もくようび: ＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

きんようび: ＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

Name_____
Group_____

Weekly Observation Form
Date:_____

I. Weekly Data

Crayfish length (cm): _____

Crayfish weight (g) : _____

Volume of water (ml/l) : _____

Temperature of water (C) : _____

II. Daily Data

Behavior/Daily Happenings/Feeding/Change of water/Habits

Monday:_____

_____

Tuesday:_____

_____

Wednesday:_____

_____

Thursday:_____

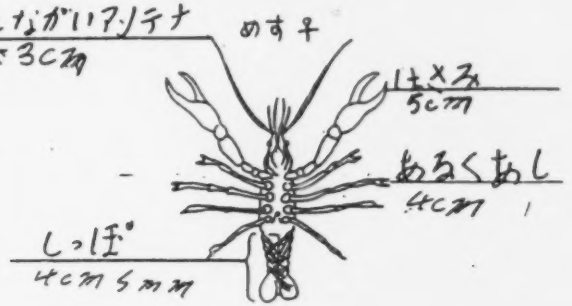
_____

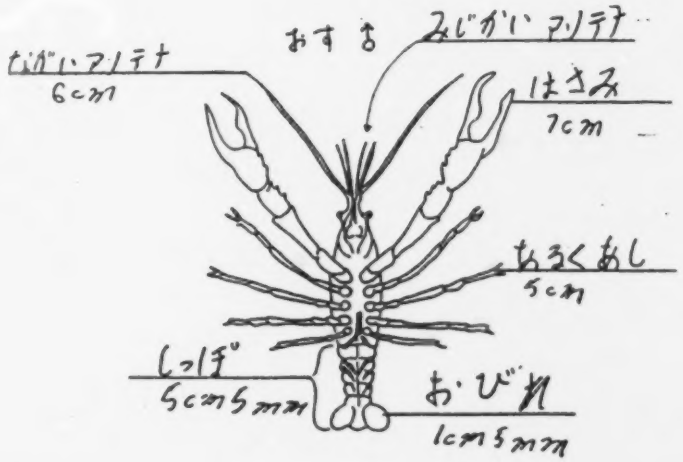
Friday:_____

_____

なまえ ジェシー ツルバー ひにち

ざりがにのずかい





なまえ ジェシー 陽 ひにち 二月二十一日

ざりがにの からだ

1. ざりがにには、めがありますか。 はい いくつ 2つ
2. ざりがにには、みみがありますか。 いいえ いくつ0(ゼロ)どうでわかる
3. ざりがにには、あるくあしがありますか。 はい いくつ 8つ
4. ざりがにには、アンテナがありますか。 はい いくつ 2つ
5. ざりがにには、おびれがありますか。 はい いくつ 3つから4つ
6. ざりがにには はさみがありますか。 はい いくつ 2つ
7. ざりがにの あしには、かんせつがありますか。 はい いくつ 50
8. ざりがにには、くち(ぶぶくん)がありますか。 はい いくつ 1→6のぶぶくん
9. ざりがにの しっぽは おれますか。 はい いくつ 6つ
10. ざりがにには はりげがありますか。 はい と いくつ 口のまわり からだ
11. ざりがにには、こぶがありますか。 はい いくつ あたまとせなか
12. ざりがにの とくちょうを しらべてみよう。 ざりがにの とくちょうは、からが かたいことと みみずを たべます。それと、てきを アンテナで しらべれる。ざりがには からを ぬいで ぬけがらを つくる そして ざりがにの 子どもは 6月から 10月ごろに たまご うみ、子どもが かえります。ざりがには、口が たくさんあります。すを どろで つくります。

BEST COPY AVAILABLE

Name yo / Group Furrball

Weekly Observation Form
Date: 3月29, 1995

I. Weekly Data

Crayfish length (cm): 13cm
Crayfish weight (g): 15g
Volume of water (ml/l): 100l
Temperature of water (C): 19c

II. Daily Data

Behavior/Daily Happenings/Feeding/Change of water/Habits

Monday: we changed the water today.
Tuesday: She ate worms and she was eating really fast.
Wednesday: we fed cat food but she din't eat it!!!
Thursday: She were in the house and she was angry.
Friday: Today she was in the house agsin and she was not angry.

なまえ ケイ明陽 グループ ファルボール

かんさつ きろく

ひにち 2/28/1995

1 いっしゅうかんの きろく

ざりがにのながさ (cm): 13cm
ざりがにのおもさ (g): 15g
みずの りょう (ml/l): 100ml
みずの おんど (C): 19c

2 まいにちの きろく

ようす, できごと, えさをやる, みずのとりかえ

げつようび: 今日は、水をかえる日だったから ザリガニを ちがう入れ物に入れた。
かようび: 今日は、みみずをえさをしたらすごく速く食べてしまったのだからみみずはだいこうぶつだ。
すいようび: 今日は、キャットフードをあげてみたら キャットフードからはげてしまったのだからきらいだと分った。
もくようび: 今日は外へでてておこってて はさみをあげてておもしろかった。それは、はじめてだった。
きんようび: 今日は、バブラーのとなりにいて すわってて しっぽを まるめてた。

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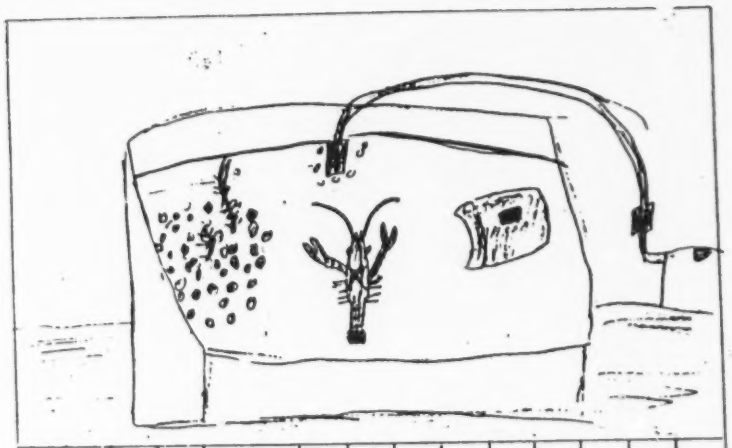


ざりがにのがんさつ

ざりがにのがんさつをしました。

ざりがには、生きているものを食べるのがすきです。ねこの食べものをあげてみたけど、そんなに食べません。たとえばみみずのようなはさみで食べるときは、小さなじょうずにたべるのでびっくりしました。

ざりがにには、やわみたいな名前ですが、やさしくていいです。

食べてる絵

ざりがにには、こわいのとやさしいのがいます。わたしのは、エクシーという名前です。

ざりがにには、エクシーがあるほうがすきです。

ざりがにには、ざりがにがあるほうがバブラーがあるほうがすきです。

空気がたくさんあるのでバブラーがあるほうがすきです。

みたいにえらがあります。ざりがには、魚

ります。アンテナがうごきます。アンテナでだれがざりがにのわかるのがざりがにのわかるのがざりがにのわかるの

English/Japanese Lesson Plan: Floating Is Better In Salt Water

Room:109 Gr:3 Teacher: Mrs. Denise Ebisuzaki Sensei: Mrs. Teruko Kubota

Introduction:

Students will study the differences between fresh and salt water. One of the differences to be discovered is buoyancy. There is greater buoyancy in salt water. The following experiment helped prove that objects will float higher in salt water than in fresh water.

Goals:

Students will observe that a hydrometer (floater) floats higher in salt water than plain water.

Objectives:

Students will create an hydrometer, floater, out of a straw and plasticine.
Students will create a salt solution called brine.
Students will put the floater (hydrometer) in the salt solution and plain water solution to compare densities.

Materials: (for each group of students)

2 identical beakers or containers
2 straws
2 pieces of plasticine about one inch in diameter
salt, water, water proof marker

Japanese vocabulary:

bin びん, jar mizu 水, water uki うき, floater strooストロー, straw
ukibakari うきばかり, hydrometer kosa こさ, density shio 塩, salt
tokashita とかした, solution shiomizu 塩水, brine nendo ねんど, plasticine
koppu コップ, cup ukabuうかぶ, float

Lesson Plan:

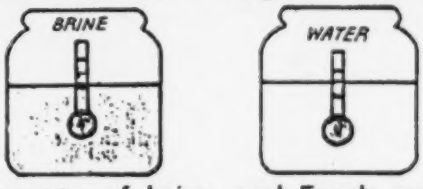
Teacher and Sensei explain Japanese and English Vocabulary

Teacher and Sensei help students explore their own knowledge about water and buoyancy using the vocabulary words.

Students predict the outcome before the experiment.

Students make simple hydrometers with plasticine and straws
- cut the straws into 6 cm. lengths
- calibrate (mark) the straws with lines 1 cm. apart and label each line
- make a ball with the plasticine and push the straw into it. (see worksheet) The plasticine serves as a weight and balance.

floater floats higner showing that brine is denser.



Students make identical amounts of brine and Fresh water solutions in identical containers. (The brine solution can be made at any concentration.)

Students place their hydrometers in the brine and fresh water containers and use their observations to fill in their worksheets and write out their observations.

Class discussion should follow: Students share their findings and the variables.

Results:

Each group should show that the hydrometer floats higher in the brine solution.

Name _____ Date _____

_____ _____

Testing Salty Water

しおみずのじっけん

Vocabulary

Brine	しおみず
Fresh Water	みず
Hydrometer	うきばかり
Straw	ストロー
Plasticine	ねんど
Cup	コップ
Float	うかぶ
Density	こさ

Salty H_2O
しおみず

Fresh H_2O
みず

Question: Will a floater float better in brine?
うかぶ

Name [redacted]　　Date 3/27/15

[redacted]　　3月27日 [illegible]

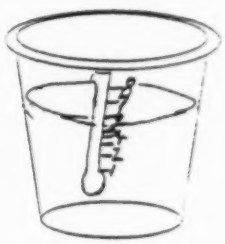
Testing Salty Water

しおみずのじっけん

Vocabulary

Brine	しおみず
Fresh Water	みず
Hydrometer	うきばかり
Straw	ストロー
Plasticine	ねんど
Cup	コップ
Float	うかぶ
Density	こさ

Salty H_2O
しおみず



Fresh H_2O
みず

Question: Will a floater float better in brine? Yes
うかぶ

Learned

-I learned that a hydrometer measures the density of a liquid. /

Salt water is denser than fresh water.

You can float in both waters

Hydrometer floats better in salt water.

Salt particles are always moving

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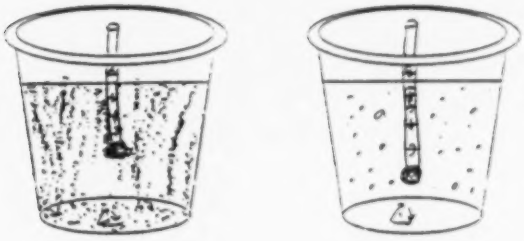
Name Samantha Jade Snæfk
サンナ

Date 3/27/95
3月27日

Testing Salty Water
しおみずのじっけん

Vocabulary

Brine	しおみず
Fresh Water	みず
Hydrometer	うきばかり
Straw	ストロー
Plasticine	ねんど
Cup	コップ
Float	うかぶ
Density	こさ



Salty H_2O
しおみず

Fresh H_2O
みず

Question: Will a floater float better in brine?
うかぶ

I learned that things float better in salty H_2O than in freash H_2O. I also learne the jappanese words for the science words.

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English/Japanese Lesson Plan: Electricity

Room: 207 Grade:4/5 Teacher: Ms. Lori Murakami
Sensei: Ms. Mamiko Lake
Room: 206 Grade:4/5 Teacher: Ms. Enid Yamamoto
Sensei: Ms. Ryoko Tadakuma
Room: 1 Grade:5 Teacher: Ms. Junko Low
Sensei: Ms. Kyoko Mullins

Introduction:

The teachers and senseis have worked together to design a unit on electricity. The students make a circuit using a battery, a bulb wire, and a piece of cardbord. Then students place various objects such as a nail, a pencil and a piece of aluminium foil in the middle of the circuit to find out which objects serve as conductors, and which objects act as insulators. During the experiment all the words related to this experiment are introduced in Japanese.

Previous bilingual lessons:

1. The students learn the names of the objects such battery, electricity and a small light bulb in Japanese.
2. The students learn about electricity, battery and circuits in English.

Lesson:

The teacher asks the students about electricity and the students freely express their knowledge on electricity in either English or Japanese. Key words such as electricity, battery, science are introduced in Japanese and the objective of this experiment is explained in Japanese. The teacher will explain how to build a circuit in Japanese. The students guess which objects allow electricity to flow through them (conductors) using Japanese words "tsuku" (light up) and "tsukanai" (does not light up). Each group (four to six students in the group) will make a circuit and determine which objects will be the conductors and insulators. At the end of the experiment each group will sum up the results of the experiment in Japanese. After the experiment the students are divided into three groups according to their language ability and give worksheets. (see attached))

Japanese vocabulary :

kandenchi 乾電池, battery; denki 電気, electricity; mamedenkyu 豆電球, small light bulb; tsuku つく, light up; tsukanai つかない, does not light up

Mrs. Ryoko Tadakuma
Melissa Nagatsuka
Mari Nakamura

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理科（りか）　じっけん

名前（　　）

（１）でんきをとおすもの　でんきをとおさないもの
(Experiment with Conductors and Insulator) Some materials let electricity flow through them. Other materials keep electricity from passing through them.

（もくてき）でんきをとおすものと　とおさないものをさがす。

（ようい するもの）

かんでんち

くぎ

まめでんきゅう

けしゴム

どうせん

かぎ

えんぴつのしん

アルミホイル

(Key Words)

science ・
electricity ・
battery ・
key ・
nail ・

・でんき
・かぎ
・くぎ
・りか
・かんでんち

（じっけん　のじゅんじょ）
1.Make a circuit like the one in the picture.
2.Now touch the ends of both wires to the objects in your collection.
3. Does the bulb light up?

（けっか）（　　）は、でんきが　つきました。
（　　）は、でんきが　つきませんでした。

Intermediate Work sheet.

一 今日は どんな 勉強を しましたか。

月 日

二 何を つかいましたか。

三 何を ならいましたか。

四 この ページは 何の ための 何ですか。

五 つぎの ことばを べんきょうしましょう。

かぎ
えんぴつ
くぎ
かんだんち

ドア
ハンマー
ドライバー
ペンチ

月　日

どんなものが　でんきをつかいますか

だれが　いつ　でんきを　はつめいしましたか

でんきが　もしも　なかったら　どうなりますか

電流の実験　　なまえ（　　）

直列電池	
豆電球	
金属線	
釘	
鉛筆	
◎実験のしかたと結果を次の言葉を使ってわかりやすく説明しましょう。（はじめに　つぎに　それから　すると　わかったことは）　せつめい	

work sheet (novice / beginner)

電気(でんき)

なまえ(　　)

きょう りかの じっけんを
しました。

＿＿＿＿＿ は、でんきを
とおします。

＿＿＿＿＿ は、でんきを
とおしません。

1 あなたは りかが すきですか

2 あなたは どんな じっけんを しましたか

( )

( )

( )

( )

( )

( )

( )

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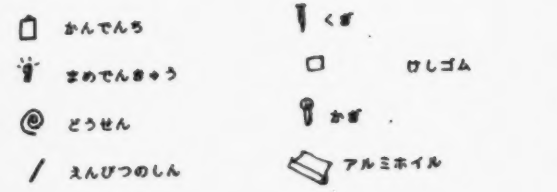
理科（りか）　じっけん

名前（なまえ）　　）

（1）でんきをとおすもの　でんきをとおさないもの
(Experiment with Conductors and Insulator) Some materials let electricity flow through them. Other materials keep electricity from passing through them.

（もくてき）でんきをとおすものと　とおさないものをさがす。

（よういするもの）



(Key Words)

（じっけん　のじゅんじょ）
1 Make a circuit like the one in the picture.
2 Now touch the ends of both wires to the objects in your collection.
3 Does the bulb light up?

（けっか）（はさみ、ぎ　かびわ
（えんぴつ　の　しん

）は、でんきが　つきました。
）は、でんきが　つきませんでした。

一、今日（きょう）は　どんな　勉強（べんきょう）を　しましたか。
りかの　べんきょうを　しました。

二、なにを　つかいましたか。
うてアルミホイルと　どうせんと　まめでんきゅうと　かぎに　かんでんち　あつがみを　つかいました。

三、なにを　ならいましたか。
かぎは　でんきを　とおしました。
かみは　でんきを　とおしません。

四、りかの　べんきょうは　たのしかったですか。
たのしかったです。

つぎの　ことばを　べんきょうしましょう。
かんでんち　・BATTERY　けしゴム　・
くぎ　・NAIL　どうせん　・
えんぴつの　しん　・PENCIL　アルミホイル　・
かぎ　・KEY　どうせん　・

え

電流の実験　　なまえ（　　）

乾電池　乾電池　乾電池

豆電球　豆電球　豆電球

銅線　銅線　銅線

釘　釘　釘

鉛筆　鉛筆　鉛筆

実験のしかたと結果を次の言葉を使ってわかりやすく説明しましょう

（はじめに）（つぎに）（それから）（つぎに）（おわりに）

はじめに　乾電池と豆電球と銅線を使って

つぎに　豆電球のソケットに銅線をまきつけて

それから　乾電池のプラスとマイナスに銅線をつなぐと

つぎに　豆電球がつきました。

おわりに　このことから電流が流れると豆電球がつくことがわかりました。

二月十二日 #25 みがら

どんなものが でんきを つかいますか

コンピューター　ロケット

とけい　ポンプ

でんわ　人びっくり

だれが どこで でんきを はつめいしましたか

トーマス・エジソン

でんきが もしも なかったら どうなりますか

でんきは あります。

11;

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電気

佐々木　景貴

まぶしい　明かりが家をつつむ
あの音　この音　毎日聞こえる
ラジオの音、テレビの音
うるさく優しい音
笑いが家をつつむ
みんな電気のおかげ
ありがとう

115

東京タワー

男分亜耶ん

東京タワーからきれいな明りがぴかぴか
ほんとうにきれいだな。
東京タワーはみんなにこのきれいな
明りを見せている。
やっぱり電気はたりせつだね。
電気のない世界なんてまっぴらだ

111